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GENERAL PLAN

City of Newark
California

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GENERAL PLAN APPENDICES

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AREA PLANS (Bound Separately)

The following Area Plans, referenced herein and each bound separately, are adopted parts of the Newark General Plan:

HISTORIC NEWARK AREA PLAN

FOUR CORNERS AREA PLAN

Chapter 1. INTRODUCTION

Chapter 1. INTRODUCTION

1.1 PURPOSE OF THE GENERAL PLAN

The Newark General Plan is a general, yet comprehensive, integrated, and internally consistent statement of the goals, policies and programs that will guide future growth and change within the City over approximately the next fifteen to twenty years. Although the plan is long range, it also includes the provisions necessary to guide decisions that will be needed in both the short and mid term. The plan policies are intended to direct both public and private decision making with respect to lands and conditions within the City. Therefore, the policies are to be protected and not changed unless new data is developed to show that change is needed. In this way a continuing commitment to the plan can be ensured.

The General Plan derives its authority from and is directly responsive to the California Government Code. The plan incorporates the mandated elements of Section 65302 into a single document with chapters designed to meet the specific needs of Newark. With adoption of the General Plan, Newark assumes responsibility for its implementation, to annually report on its status and to make the Plan's policies known to the citizens of the community and to other agencies whose actions might impact the City.

1.2 FORMAT OF THE GENERAL PLAN

Text

The plan consists of several officially adopted maps and accompanying text. The text is organized to satisfy the requirements of state planning law, but it has been tailored to address the specific conditions of Newark and the issues and problems facing its decision makers. Starting with Chapter 3, the title and contents of a number of plan chapters directly relate to one or more of the state mandated general plan elements as follows:

<u>General Plan Chapter</u>	<u>State Mandated Element</u>
Chapter 3. Land Use	Land Use
Chapter 4. Transportation	Circulation
Chapter 5. Housing	Housing
Chapter 6. Open Space and Conservation	Open Space Conservation
Chapter 9. Environmental Safety	Safety
Chapter 10. Noise	Noise

While simple, this organization allows for quickly identifying where state mandated policies, and programs can be found. Further, this organization is directly related to previous Newark planning documents and allows for ease of plan use. Even though each chapter is designed to specifically meet the state requirements, all chapters are interrelated and care has been taken to integrate all plan text and diagrams.

In addition to the chapters that directly relate to the state mandated elements, two other general purpose, "optional", chapters are also included in the plan. **Chapter 7** deals with *Recreation* and **Chapter 8** deals with *Community Services and Facilities*.

The final two parts of the plan are somewhat more unique in that they provide more detailed information and, policies and programs for specific sub-areas of the City. These parts, or Area Plans, of the general plan are the *Historic Newark Area Plan* and the *Four Corners Area Plan*. While these Area Plans have somewhat different formats than the other chapters of the plan, and are each bound separately, they none-the-less, have equal weight to the other provisions of this plan. In fact, they have been adopted as "optional" general plan elements pursuant to the provisions of state law.

Starting with the Land Use Chapter, each chapter of the plan has a similar content. First, there is an introduction and purpose statement. This explains the specific intent of the chapter and provides an overview of the conditions or issues that exist with regard to the chapter topic. Also provided is a discussion of the special or unique relationships of the chapter to other chapters of the plan. The specific goals, policies and programs unique to the chapter are presented. These goals, policies and programs will guide the City's actions during the life of the plan. In cases where additional details are needed to clarify the intent of the policies or programs, descriptions are provided to ensure appropriate and timely actions. The descriptions have the same force or obligation as the policy or program statement that is explained.

The goals, policies and programs are the fundamental basis of the plan and will be used to direct the growth and change that will determine the future character of Newark. The goals, policies and programs as used in this plan are defined below:

Goal: *A general, overall and ultimate purpose, aim, or end toward which the City will direct its effort.*

Policy: *A principle or guiding action which implies clear commitment, but is not mandatory. A general direction that the City will follow in order to meet its goals and objectives by undertaking specific action programs*

Program: *An action, activity or strategy carried out in response to adopted policy to achieve a specific objective.*

Policies and programs establish the "who," "how," and "when" for carrying out the "what" and "where" of goals and objectives.

The following words are used throughout this plan to indicate whether a particular provisions is mandatory, advisory or permissive:

"Must," "shall," or "will" identify provisions which are mandatory.

"Should" identifies a provision that is advisory. In the absence of compelling, countervailing considerations, it is adhered to. Provisions identified by "should" can be applied with more flexibility than those identified by "must," "shall," or "will".

"May" identifies a permissive provision. Considerable discretion can be used in applying it to specific issues.

By and large, policy statements are not repeated in the plan. Thus, to find all the policy statements relevant to a particular subject, the user may need to refer to several parts of the plan. In all instances, detailed policies with respect to a specific topic take precedence over more general

policies. Also, amendments to the plan supersede policies which are inconsistent with the amendments. In case of conflicting provisions, the provision providing the greatest protection to the residential character of Newark shall prevail. The diagrams of the plan, together with the goals, policies and programs, provide a guide to establishing or revising zoning districts and delineating areas subject to specific implementing programs. In some cases, information more specific than that used to formulate the General Plan will be needed to develop regulations and programs needed to implement the plan.

General Plan Diagram and Maps

Accompanying the text, and located in a pocket at the back of the plan, is the *Plan Diagram*. This diagram is the official land use plan map of Newark and it graphically illustrates many of the policies contained in the various Chapters of the plan. It shows the general location and extend of land use and transportation areas and facilities as well as other features of the planning area. It also specifies the densities at which residential development may occur. In addition to the Plan Diagram, the following maps have been adopted as official maps of the general plan:

Historic Newark Land Use Diagram (bound separately with the *Historic Newark Area Plan*)
Four Corners Area Land Use Diagram (bound separately with the *Four Corners Area Plan*)

The Historic Newark and Four Corners Area Land Use Diagrams show more specific land use designations for properties covered by these area plans. The same designations are shown on the *Plan Diagram*, however, the area plan diagrams are more specific with regard to specific parcels that are under the influence of the area plans.

Technical Background Materials

Appendix A of this plan lists the critical background materials that have been used in plan development. These data were developed over the several years that the general plan revisions program was in process and provide the foundation for the goals, policies and programs of the plan. Much of the data provides statistical analysis of historic growth and existing conditions. This information, while important to plan proposals is not repeated in the Plan. Further, these materials are not adopted as the policy of the City, nor are they essential to the day-to-day use or implementation of the plan. The materials are on file with the Newark Planning Department.

1.3 BACKGROUND AND PUBLIC PARTICIPATION

The last comprehensive review and update of the Newark General Plan occurred in 1968. Over the years the plan was amended through the modification and/or addition of various elements to address changing conditions or keep pace with amendments to the planning requirements of the State Government Code. In 1987 a new comprehensive update program was initiated. This program started with two public workshops to which every resident in the City was invited by mail. Those who attended the workshops were asked to volunteer to serve on one of the five following committees formed to ensure public participation in the update process:

Community Development
Open Space and Recreation
Transportation
Community Facilities and Services
Noise and Safety

During 1987 and 1988 each of the committees met several times to review and develop tentative statements of issues and objectives. During this period, the committees also met twice jointly. After a break to allow time for draft materials to be prepared, the members of the committees met jointly seven times in 1989 and 1990 to provide direction on land use alternatives and goals, policies and

programs for each of the updated General Plan elements. The record of much of the later public review process is contained in the document *General Plan Update, Input From Citizens Committee*, City of Newark, August 1990.

1.4 ADMINISTRATION OF THE GENERAL PLAN

Adoption of the General Plan is not the end of the general plan process. The Plan is not a static document and State Law provides a process whereby the plan can be maintained as a contemporary policy guide to City actions. Government Code Section 65400(b) requires the Planning Agency to report annually to the City Council on "the status of the plan and progress in its implementation."

State law also provides that mandatory elements of the General Plan may be amended up to four times per year. Such amendments can be made at any time, in the manner prescribed by the City Council, and may include more than one change to the General Plan. An exception to the limitation on frequency of amendments is stated in Government Code Section 65358.(a). It provides that the limitation does not apply to "amendments ... requested and necessary for a single development of residential units, at least of which 25 percent of which will be occupied by or available to persons and families of low or moderate income." This section provides other qualifications and a subsequent sub-section exempts other amendments, e.g., those needed to comply with certain court decisions.

In addition to annual review and amendment provisions, State Law also provides that many public actions be taken only after a finding is made that the action is consistent with the adopted General Plan. Specifically, Article 7 of the Government Code requires that on an annual basis all proposed public works projects be assembled in a coordinated program and that this coordinated program be submitted to the Planning Agency for review and report as to conformity with the adopted General Plan. Article 7 also restricts public acquisition and disposal of real property without Planning Agency review and report on conformity with the adopted General Plan.

Relationship to Other Plans

The General Plan is based on review and updating of previously adopted plans. With its adoption, the General Plan supersedes the following:

<u>Document</u>	<u>Date Adopted*</u>
General Plan - 1985 For the City of Newark, California	1968
Land Use	1986
Circulation	1979
Housing Element	1983
Noise and Scenic Highways Elements	1974
Seismic Safety and Safety Element	1973
Open Space	1973
Conservation	1973
Social (optional)	1979

*Date is the year that the element was last updated

Consistency of Regulations, Programs and Projects

The General Plan is a statement of governing policy; it is not a City regulation. The Plan will be put into effect through the enactment of regulations, adoption of specific plans, and pursuit of programs based on the Plan. The most important regulations are the zoning, subdivision, and site development ordinances. The regulations in force at the time the Plan is adopted will be reviewed to make sure that they are consistent with the plan as required by State Law. If inconsistencies or inadequacies are found, the regulations will be modified. Public and private development projects also must be consistent with the General Plan.

Chapter 2. A PLAN FOR NEWARK

Chapter 2. A PLAN FOR NEWARK

2.1 PLANNING AREA AND COMMUNITY CHARACTER

The City of Newark is a 13 square mile area that is surrounded by the incorporated area of the City of Fremont and located along the east side of San Francisco Bay in the southerly portion of Alameda County (see Figure 2-1). The Dumbarton Bridge links the City to the west side of the Bay and many key employment, educational, shopping and entertainment centers. The Route 84 Freeway sets the northern boundary of the City and connects the east end of the Dumbarton Bridge to Highway 880. Highway 880 establishes the eastern boundary of Newark, and provides links to major employment areas to the north and south. Further, 880 and the Route 84 Freeway are major dividing lines between Newark and the City of Fremont. On its west side, the City's environment is dramatically influenced by the presence of San Francisco Bay. Portions of the area are within the limits of the National Wildlife Refuge which contributes to the open feeling and provides a unique and regional scale open space resource. Also contributing to open space qualities are the salt evaporation ponds of Cargill Salt Company. Views from various locations within Newark to the eastern hills beyond the developed portion of the City of Fremont also contribute to the definition of the place of the City.

The strong boundaries created by the bay and baylands, and the Route 84 and 880 freeways have over the years helped create the sense of community that exists today. While the freeways are the links to employment and other resources they also are the essence of some of the most significant contemporary problems that face the City and urban areas in general. Traffic congestion, air and noise pollution and the physical bands of asphalt that divide communities have and will continue to dramatically influence life and decision making.

Newark has recognized both the benefits and constraints imposed by the freeways. It has directed much of the commercial and industrial growth to locations that are well served by the freeway system, but at the edge of the City's residential neighborhoods. This conscious effort has allowed the City to capture the retail tax benefits from the commercial development and balance the land use and service needs of its residents, while at the same time minimizing the impacts of associated traffic. NewPark Mall is located at the southeast corner of the City at the Mowry Avenue interchange of the 880 Interstate freeway. It is the only regional mall in the southeast corner of the Bay region and because of its freeway access and exposure attracts a large volume of shoppers to a wide range of retailers. The Four Corners area located just south of the Dumbarton Freeway, at the Newark Boulevard interchange, is centered at the intersection of the Newark Boulevard and Jarvis Avenue. For a number of years this area suffered from declining conditions. However, as a result of continued residential growth in the City and surrounding areas, demand increased for additional community scale commercial facilities. Starting in 1989, a program was developed by the City in response to proposals by developers in the area. This program sets a path for revitalization of the area which includes two new shopping centers on the northeast and northwest corners, both anchored by community scale supermarkets. These two new centers in combination with the other uses at the intersection will create a community scale shopping center serving the recurring daily needs of a relatively large market area within and adjacent to Newark.

Along the western side of the City, between the established residential areas and the baylands, industrial development has taken place. The quality and character of the development varies greatly from older "heavy industrial" type users to newer high-tech facilities and warehouse distribution operations. The direction has been to phase out those uses that have nuisance

Figure 2-1
NEWARK PLANNING REFERENCE AREA



Scale: 1" = Approximately 6.25 miles

General Plan

Figure 2-1

characteristics and encourage uses that have minimum impacts of noise, pollution, and traffic congestion. For example, in 1989, Sun Microsystems was encouraged to locate a "campus type" facility on a site immediately south of Mowry Avenue and west of Cherry Street. While efforts for upgrading industrial uses have been successful, work remains to be done and is described in this plan. Included are improvement of a west side arterial to reduce impacts of industrial related traffic, continued upgrading of industrial use standards and conversion of heavy industrial use areas to less intensive industrial uses.

While development along the edges of the City has been guided so that it capitalizes on the freeway access, this development has also buffered the more sensitive lands use, i.e., residential neighborhoods, parks, schools, etc., from the adverse affects associated with the freeways. This has allowed the neighborhoods to develop a somewhat protected feeling. Although these residential areas could be classified as separate neighborhoods, in fact the residents have avoided such classification. Rather, there has been a strong emphasis on the "community" and to nurture the feeling that the entire residential portion of the city functions with a neighborhood feeling. This approach encourages overall City identity and, in the long run will be important to helping Newark maintain itself as a unique place, particularly as growth on the east side of the Bay intensifies.

2.2 THE NEXT 20 YEARS; BALANCING GROWTH AND CHANGE, PROVIDING SERVICES AND FACILITIES, AND FISCAL RESPONSIBILITY

Since the last comprehensive Newark General Plan revision in 1965-68 there have been significant growth and change within the City. The population has increased from approximately 10,000 persons to 1990 was approaching 38,000. Except for some relatively small tracts of commercial land and some industrial areas along the western side of the City, Newark is virtually developed, and the land use pattern set. The general character and organization of the community as described above will not change dramatically over the next 20 years. However, there remain some significant challenges facing the City Council and Planning Commission and others concerned or charged with making decisions that will help to guide growth and change in Newark. Their decisions will be guided by the goals, policies and programs set forth in this plan. However, the decisions will also be significantly affected by events that take place particularly at the State and Federal levels of government.

State planning regulations and requirements have become increasingly more complex. In particular, housing requirements have evolved to the point that the Housing Element is now one of the most complex parts of the Plan. Further, state and regional agencies are heavily involved in local housing planning. There are signs that such involvement in other aspects of the local planning process, e.g., transportation, solid waste management, and even specific local land use decisions, are increasing. It is important that the City Council anticipate such future involvement to the extent possible and work through organizations like the League of California Cities to preserve local control over local interests.

Opportunities for financing local government programs, as well as taxing provisions have also changed since the 1968 plan revision. Limits on growth of property and other taxes traditionally used to finance local government has changed, and more pressure has been directed toward user fees. Further, City governments have had to look to new and creative ways to generate the funds needed to provide the services the citizens desire and need. The complexity of this financing environment will not change over the next 20 years and there are signs that ever greater limits will be placed on the ability to raise money for local services and facilities. As a result, the plan provides flexibility to respond to financial realities and is based on trade-offs that have had to be made to balance growth and ensure that development will continue to pay its fair share for public services and facilities.

Thus, it will be essential for the City to establish clear priorities for achieving the goals and objectives of this plan. The plan anticipates the process of priority setting and offers options for attaining goals. In some cases, the plan calls for relatively rapid change or growth, and in other situations, it provides for change to occur over a much longer period and includes opportunities for interim land use controls.

2.3 MAJOR COMMUNITY GOALS

The major goals of this plan are set forth below and set the framework for Newark's growth and change over the next 20 years. Included with the goals are the reasons for them and an overview of their impacts.

Goal 1. Maintain a desirable quality of life in the community through preservation of the small town neighborhood atmosphere and the promotion of balanced land use that takes into account the need for economic diversity and future financial well being of the city.

As vacant land is developed and existing uses redeveloped, care must be taken to ensure that change is compatible with the desired high quality and established small town residential character of the City. Care must also be exercised to ensure that all new development does not result in undue burdens on the City. In particular, the development should pay its fair share for public services and facilities and demonstrate that it will not result in unacceptable financial burdens to the City. All new development should be free of those characteristics, e.g., noise, air, soil, water pollution, traffic congestion etc., that would make the use an unacceptable neighbor in the community. Growth and change should be balanced with the need to provide open spaces, recreation lands, and social and cultural facilities that are important to maintaining those qualities of life that temper the impacts of the built environment and the Bay area pace of life for the citizens of Newark.

Through the use of typical implementation techniques, e.g., zoning, subdivision and site development regulations, and by way of special procedures such as sub-area plans and specific plans, the City will guide growth and change so that it conforms with the goals and policies of the General Plan.

Goal 2. Promote high quality development that establishes the City's character as distinctive from that of the other cities in the Bay area.

The quality of existing development can be enhanced through encouraging higher levels of property maintenance and incorporating higher design standards for new development and redevelopment of existing projects. The plan calls for all growth and change to be monitored in terms of its contributions to preserving and enhancing the attractive, family-oriented, tranquil and small town qualities of Newark's residential neighborhoods.

Goal 3. Guide the timing and location of growth and development to ensure the availability of services and protection of sensitive natural environments.

As growth occurs along the southern, western and northern edges of developed Newark, it must be consistent with the limitations imposed by sensitive environments. Further, the services and facilities to support the new development must be in place, or their extension provided for as part of the development prior to permitting the development to take place. In some cases, negotiations with other agencies, particularly those federal agencies responsible for control and regulation of wetlands environments, will need to be complete before development proposals can be effectively reviewed by the City. Property owners who are potentially impacted by wetlands or occupied endangered species habitat are encouraged to enter into early negotiations with the appropriate federal agencies.

Goal 4. Protect persons and property from unreasonable exposure to natural hazards such as floods, fire, unstable ground, erosion and earthquakes.

A variety of natural conditions have potential impacts on various portions of the City. Flooding and unstable grounds are constraints that must be faced in using lands along the western and northwestern edges of Newark. Because of its location in the San Francisco Bay region, the City is exposed to the potential hazards associated with earthquakes. The plan provides for all new development to be evaluated in terms of natural hazards and actions taken as necessary to mitigate the potential hazards to acceptable levels.

Goal 5. Protect and conserve significant community resources such as energy, clean air and water and historic or architecturally interesting buildings.

Those resources that help make Newark a desirable place to live and work, need to be protected as growth and change take place. Further, existing conditions that are contrary to these desired qualities need to be eliminated through new regulations and performance standards. The Historic area of the City has qualities that provide the opportunity for development of a unique place for living and shopping. This area, if developed in line with the provisions of the Historic Newark Area Plan, will offer an attractive alternative to other shopping and living environments in the city and will help to ensure a balanced land use pattern.

Goal 6. Provide for the safe and efficient movement of people and goods within the community and other areas of the region with minimum of disruption and adverse environmental effects.

Continuing efforts will be made to improve the City's circulation system and to prevent new development from overwhelming the major arterials within the community. Also, care will be taken to work with Caltrans and other transportation agencies to minimize the impacts of traffic from the local freeway routes on city streets.

Maintaining the integrity of residential neighborhoods by minimizing traffic impacts is a focus of this Plan. The design of residential streets should discourage through traffic. Truck routes and regulations should be adopted and enforced.

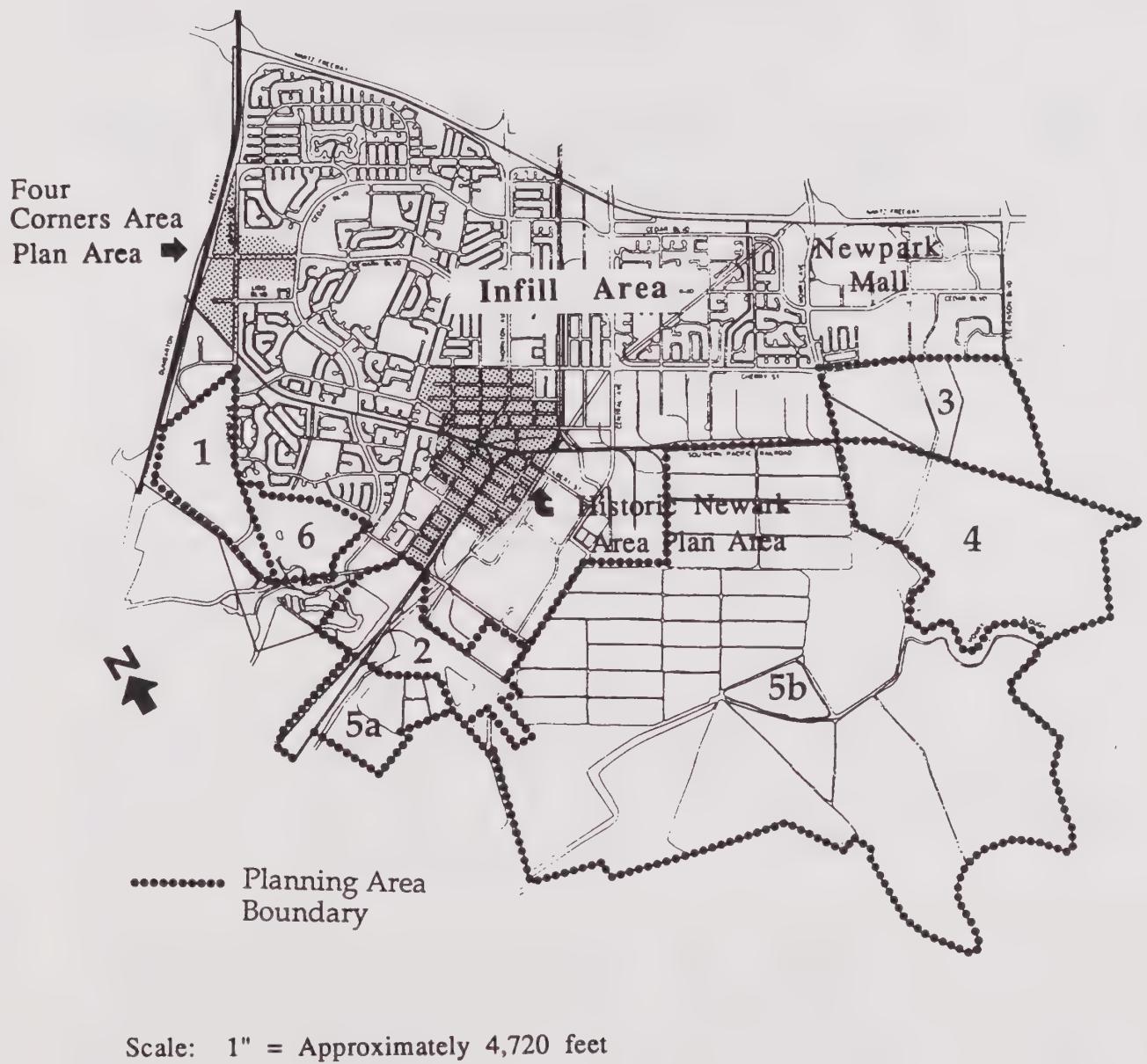
2.4 SUMMARY OF MAJOR PLAN PROPOSALS

In developing the framework for the General Plan, land use decisions were analyzed based on "infill" conditions and conditions in six study areas with the most significant potential for change. Figure 2-2 shows the "infill" and other study areas. The following statements provide an overview of the major General Plan proposals to guide development during the plan period. All of these proposals are discussed in greater detail in the specific chapters of this plan. Because the City is surrounded by other jurisdictions, the plan anticipates no addition to the incorporated limits of Newark during the plan period.

"Infill" Area

The "infill" area represents the majority of the City. Within this area are specific "infill" sites where more significant land use changes are anticipated during the plan period. The issues and plan proposals associated with these sites are described in the *Land Use and Transportation* Chapters of this plan. However, for the majority of the Infill Area shown on Figure 2-2, the land use pattern is well established and not anticipated to change during the plan period. It is envisioned that there will be continuing efforts to improve the circulation system and enhance the architectural and site design conditions of development; but, it is not anticipated that there will be any significant use conversions. The most significant "infill" proposals are:

Figure 2-2
GENERAL PLAN STUDY AREAS



Regional Commercial, i.e., NewPark Mall Area, and Adjacent Community Commercial Designated Lands. The plan provides for protecting the commercial retail resources in this area, but establishes new design review provisions. These provisions are intended to minimize the impacts of growth and change in the area on, for example, the open space/park use of the Eucalyptus Grove, to ensure new commercial uses are of high quality because they will be visible from arterial streets, and to encourage positive relationships to the existing regional commercial uses.

Neighborhood Shopping Area at Newark Boulevard and Mayhews Landing Road. The plan proposes a single family medium density (6.5 to 15.0 units per acre) option for this 5.4 acre site. The site, known as Fry's or Purity Plaza, contains neighborhood retail uses, but it has had a history of economic uncertainty and the quality of the uses have varied greatly. The optional designation will allow for approximately 52 units on the property.

Inland Container Properties, 28 Acres Northeast of Intersection of Cedar Boulevard and Central Avenue. While the plan preserves the existing industrial designation on these properties, it also provides for an alternative medium density residential use. It is anticipated that such use may not occur until well into the plan period. The alternative long term use is proposed for compatibility with surrounding properties and in recognition that Cedar Boulevard should be the dividing line between commercial and industrial uses to the east and residential uses to the west.

Wells Avenue Area, 12+ Acres Immediately North of the Wells Avenue Intersection with Enterprise Drive. The plan proposes ultimate conversion of these lands, currently occupied primarily by industrial uses, to medium density residential use. This change is needed for compatibility with adjacent residential uses and will help address the housing needs of this City.

Route 61. Route 61 is a state proposed west side freeway extension. Its precise location and design, as well as timing of construction are uncertain. However route planning will occur during the plan period and it is even possible that construction could start during this time frame. The plan supports the route and identifies factors that should be taken into account in route planning. However, in light of the uncertainties associated with Route 61 and the need to accommodate proposed growth, the plan provides for both an "in Town" west side, north-south arterial route as well as the Route 61 freeway.

Cedar Boulevard Overpass. The Plan provides that the initial extension of Cedar Boulevard westerly from Haley Street be accomplished with a two-lane divided street and with an at-grade crossing of the Southern Pacific railroad tracks. The plan also provides that any grade separation, if ultimately found necessary, should only be accomplished as an underpass. In order to reduce the pressure for ultimately installing an underpass at Cedar Boulevard and the railroad tracks, the plan also provides for a grade separation crossing, i.e., an overpass, at Central Avenue where it intersects the Southern Pacific Railroad tracks.

In addition to the specific infill sites, modifications and changes are planned within the areas covered by the Historic Newark and Four Corners Area Plans. The *Historic Newark Area Plan* (bound separately) focuses on the actions needed to create a neighborhood commercial center to be anchored by a supermarket. It calls for increased residential development and encourages assembly of land for such purpose through a density bonus system and opportunities for mixed commercial and residential uses. It is anticipated that by encouraging residential growth, market conditions will be enhanced to the point that the neighborhood commercial center will become viable. Also, the plan establishes enhanced design guidelines with the vision that a unique center can be established that has a historic downtown feeling to it. Such a center is currently lacking in the City, and the vision for the Historic area, if captured should help round out Newark as a complete community.

The *Four Corners Area Plan* (bound separately) provides for the action necessary for development of a unique community scale shopping center that will surround the intersection of Newark Boulevard

and Jarvis Avenue. It incorporates new development on the north side of Jarvis Avenue, recognizes existing high quality uses on the south side of Jarvis and provides directions for modification of exiting underutilized lands. The plan also provides increased residential opportunities.

Area 1

This area, north of Jarvis Avenue, east of Thornton Avenue, south of the Dumbarton Freeway and west of the Bridgeway Technology Park is planned for special industrial business park use. Specific performance standards are identified for the use of this area including accommodating the potential for wetlands constraints.

Area 2

This area, generally south of Thornton Avenue and west of Willow Street is planned for Limited and General industrial and open space uses. Specific performance standards are defined based on the unique situation of the lands in this area. The plan also recognizes that wetlands will potentially constrain development proposals for this area.

Area 3

This area is located along the west side of Cherry Street, east of the Southern Pacific Railroad line and between Mowry Avenue and Stevenson Boulevard. Recreation uses are planned along the south side of Mowry Avenue and Special High Tech Business Park use is planned for the remainder of the area.

Area 4

These lands are west of Area 3 and extend to Mowry Slough. While the plan recognizes the difficulty of access, and potential limitations imposed by ownership and wetlands, it also recognizes opportunities for executive housing and recreational uses. As a result, planned uses include low density housing, a golf course and other recreational amenities and open space. A number of development qualifications are identified, including the direction for property owners to achieve early resolution with respect to wetland constraints, and the requirement that a specific plan be prepared as a detailed guide to development.

Area 5a

This area is located west of Area 2. General Industrial is planned for the 15 acre parcel north of the railroad tracks owned by Cargill Salt (i.e., the site of the old waste water treatment facility). Open space and conservation is planned for the remainder of the area.

Area 5b

This area is owned by Cargill Salt Company. The majority of the area, approximately 2,875 acres, is in salt crystallization ponds. This use is planned to continue throughout the plan period. As a result, the planned use is open space and conservation, and would include agriculture and open space for resource production. The intent and understanding of these designations is to allow the existing Cargill Salt uses to continue during the plan period.

Area 6

Low density residential and open space are the planned uses for this 126 acre area, known as Mayhews Landing, located south of Jarvis Avenue, east of Thornton Avenue and north of the extension of Cedar Boulevard. A number of qualifications are identified including the manner in

which wetlands will constrain any development proposal for this Area. The Land Use Chapter sets forth the development parameters for this area.

Chapter 3. LAND USE

Chapter 3. LAND USE

3.1 INTRODUCTION AND PURPOSE

Newark's land use pattern is well established and is not likely to experience dramatic changes during the 20 year plan period. This portion of the plan reviews the growth that has taken place since preparation of the 1968 General Plan and establishes the descriptions, limits and directions for the growth anticipated during the plan period. It also defines land use categories and describes the General Plan Diagram.

3.2 RELATIONSHIP TO OTHER CHAPTERS

All chapters of the Plan, to some degree, contain policies which affect land use. Each type of land use has basic land area requirements and service needs. The distribution of uses is significantly influenced by the availability of circulation and access and previously established patterns of development.

This chapter focuses on land use in general, but more specifically on the goals, policies and programs for *Residential*, *Commercial*, and *Industrial* land use. Details of other land uses are addressed in subsequent chapters of this plan as follows:

Transportation Chapter, highways, streets, and transit facilities
Housing Chapter, housing distribution by type, etc.
Open Space and Conservation Chapter, system of open spaces
Recreation Chapter, parks and recreation areas
Community Services and Facilities Chapter, public facility sites, including public and private institutions.

Policies in all of these chapters are represented on the General Plan diagram.

3.3 THE COMMUNITY AND EXISTING LAND USE

Population, Housing and Economic Growth

The Housing Chapter provides a detailed analysis of population and housing growth since the 1968 General Plan was prepared. Further, based on the distribution of land uses shown on the Plan Diagram and the land use intensities defined in this chapter, it evaluates the potential for additional housing and jobs within the City during the plan period, and particularly during the period from plan adoption to 1995. Some highlights of the analysis, and from earlier background studies, i.e., *Technical Background Materials*, *Appendix A* that particularly influence the pattern of land use are:

- o In 1990 the population was rapidly approaching 38,000 people. The Association of Bay Area Governments (ABAG) projects a total City population of 44,300 by the Year 2005. (These estimates will most likely change when final 1990 Census figures are evaluated and incorporated into future ABAG projections.)
- o In comparison to the rest of the Bay area, Newark's population is significantly younger, with 35% of its population being under 17 years old, compared to the County average of 25%. The

elderly population is also lower with 3.2% of its residents being over 65 years old as contrasted to 10.3% elsewhere in Alameda County.

- o Newark can be characterized as a family town, with an average household size of 3.09 persons per household (1990 Census, Table 3-1). This is the highest average in the County. The County wide average is 2.54 (State Department of Finance, April 1986). However, the household size has decreased substantially over the past 20+ years from 4.14 in 1966 to 3.37 in 1986. The ABAG projections expect the Newark household size to drop to 3.18 by 2005.
- o The housing stock almost doubled during the last 20 years, growing to over 11,350 units. Increases were in near equal proportions in both single and multi-family housing. During this period the City has approached running out of vacant land available and zoned for residential growth. Since 1980, the housing stock grew by over 280 units per year. Although, there was a trend toward a slower growth rate toward the end of the 1980 decade, over 800 new dwelling units were included in projects approved between 1988 and 1990.
- o A high proportion of Newark residents are in the Bay Area work force. ABAG estimates that 18,600 Newark residents were employed in 1985. This is a 150% increase in the work force in 1970. Much of the increase has been due to more people in the household working. In 1970, 0.81 persons per household were in the labor force. In 1985, the figure more than doubled to 1.71 workers per household reflecting both the emergence of more women in the work force as well as the economic pressures requiring larger household incomes. ABAG projects the work force to increase to 23,400 Newark residents by 2005. The rate of increase is greater than the projected population growth, and reflects a continuing trend of more workers per household.
- o Despite the large number of jobs located in Newark, many of its residents commute outside the City. According to the 1980 census, only 15% of the Newark work force actually worked within the City. About two-thirds of the Newark work force spent 20 minutes or more traveling to their work place. The largest number of Newark residents worked in manufacturing and wholesale jobs in 1980, followed next by "services", e.g., business, personal, professional, medical, and "other", e.g., transportation, finance, insurance, government. There were substantially more Newark residents in service and "other" jobs than were the availability of such type of jobs within Newark.
- o The majority of the 1985 estimated jobs within Newark were in manufacturing and wholesaling. ABAG projects that the number of manufacturing jobs will increase substantially over the next 20 years largely as a result of continued expansion of the Bay Area's high technology industries. Substantial job growth for Newark is also anticipated in retail services companies.
- o Local shopping opportunities have expanded dramatically over the past 20 years and the number of retail sales have grown substantially over the last several years. In 1966 it was estimated that there were 76 retail establishments in Newark. In 1986, there were 383 stores, and restaurants representing a four-fold increase.
- o Planning for Newark must be cognizant of long-term market economic and market conditions and how such conditions will change over the next 20 years. Whereas forecasts indicate that the next two decades could produce increases in both housing and industrial/commercial growth, the exact timing of such growth within the next 20 years is less certain. Both the rate and timing of home and industrial development is highly influenced by short-term market conditions. While extremely important when they are occurring, such market conditions tend to average out over the long term and should not be relied upon exclusively in making land use decisions that will affect the long term future.

The Land Use Pattern

The General Plan Diagram for the most part reflects the established land use pattern. The amount and distribution of residential and commercial lands is not expected to change significantly over the plan period. Residential neighborhoods, including schools and parks, make up the majority of the City, and most of the residential neighborhoods contain single family detached housing. However, housing growth over the past 10 years has been mainly in single family *attached* units (1,666 units) and *multi family* units (782) vs. a single family detached growth of only of 436 units. The higher density housing is located along Thornton Avenue, in the Historic Newark area and in close proximity to the major commercial centers of NewPark Mall, and the Four Corners area.

Although some minor strip commercial uses exist along Newark Boulevard and Thornton Avenue, the key commercial shopping areas are the NewPark Mall regional shopping center and associated community scale retail uses at the southeastern corner of the city, and the Four Corners Community Retail center at the north end of the City at the intersection of Newark Boulevard and Jarvis Avenue. An existing retail area, with a varied history, is located along Thornton Avenue in the Historic Newark area. The Historic Newark Area Plan, i.e., Chapter 11, sets the goals, and programs for increasing the commercial importance of these lands.

The majority of existing industrial uses are located along the western edge of developed Newark. Key uses front on Cherry Street, Central Avenue, Willow Street, and Enterprise Drive. Further, approvals have been granted for development of a new high-tech campus type facility, i.e., for Sun Microsystems, on 86 acres west of Cherry Street just south of Mowry Avenue. Access to these uses is by way of Thornton Avenue, connecting to the Dumbarton Freeway, and Mowry Avenue and Stevenson Boulevard connecting to the 880 Freeway.

The extreme western side of the City is dominated by the salt evaporation and processing facilities of Cargill Salt Company. Further, important open spaces are located along the western edge and include lands under control of the San Francisco Bay National Wildlife Refuge, and San Francisco Bay.

Much of the undeveloped land in Newark is also located at its west and northwest sides. Some of the vacant sites are on land classified as potential wetlands and are therefore environmentally sensitive and subject to close environmental review by regional, state and federal agencies. Additionally some of the lands are subject to flooding. As a result, development of these sites is expensive and problematic.

3.4 DEVELOPMENT POTENTIAL

The focus of growth will be on "infill" projects and within the six general plan special study areas (refer to Figure 2-2). Infill projects will result from change to existing uses and development of the few remaining vacant sites within urbanized Newark. The major vacant acreages, a total of approximately 4,400 acres, are to the west and northwest of the developed City. All growth will occur within existing incorporated City boundaries and no additions to the City are planned.

Table 3.1 provides a summary of the development potential and change anticipated during the plan period. Further, The plan diagram and land use category definitions set forth in the chapter provide for the following development of the major land uses:

RESIDENTIAL LAND USE. A total potential development of 4,688 dwelling units are provided for. Many of the new units will be located in the infill areas, including over 600, mostly multi-family units in the Historic Newark area. However, the plan also provides for new residential development of up to 300 units in Area 6 and approximately 2,700 new units in Area 4. The build out of the units in Area 4 and 6 are subject to unique conditions associated with the lands and specific

polices set forth in later sections of this chapter. In particular, the new units in these areas will be single family detached executive type housing and will be in association with significant open space and recreational amenities.

COMMERCIAL LAND USE. New retail, service, and office commercial development will occur primarily in the NewPark Mall area, including both regional and community scale commercial development, and at the Four Corners area. Some additional growth will occur in Historic Newark and at a few sites along Thornton Avenue and Newark Boulevard. The critical policy issues that will have to be addressed are ensuring good access and lack of congestion and improving the design qualities of the existing and new uses.

Table 3-1
DEVELOPMENT POTENTIAL THROUGH FISCAL YEAR 2007/2008

	Existing 1/1/89	Total Potential FY 2007/2008
POPULATION	37,861⁽¹⁾	51,942
RESIDENTIAL UNITS		
Single Family detached	8,682	11,733
<u>Multi Family⁽²⁾</u>	<u>3,590</u>	<u>5,227</u>
Total Residential Available	12,272⁽¹⁾	16,960
NON-RESIDENTIAL SPACE (Square Feet)		
Retail	2,368,000	2,837,000
<u>Service /Commercial</u>	<u>169,000</u>	<u>206,000</u>
Subtotal Retail and Service Commercial	2,537,000	3,043,000
Warehouse and Light Industrial	3,900,000	6,100,000
<u>R&D/ High Tech Industrial</u>	<u>700,000</u>	<u>4,300,000</u>
Subtotal Industrial	4,600,000	10,400,000
Office	304,360	674,360
<u>Business Park</u>	<u>0</u>	<u>150,000</u>
Subtotal Office	304,360	824,360
Hotel/Motels		
Number of Rooms	900	1,010
Average Square Feet/Room	300	300
<u>Square Feet Existing Hotel</u>	<u>270,000</u>	<u>303,000</u>
Total Square Feet of Non-Residential Space	7,711,360	14,570,360
Total Non-Residential (Excluding Motel/Hotel)	7,441,360	14,267,360

Notes: (1) 1/1/91 (1990 U.S. Census figures).

(2) Multi-family homes include single family attached townhomes.

Source: City of Newark and Angus McDonald & Associates

INDUSTRIAL LAND USE. Over a doubling of the square footage in this land use is anticipated during the plan period. Most of the growth will be in the *limited* and *special* industrial categories

and will occur along the western and northwestern edge of the urbanized City. Significant new growth is anticipated in Areas 1, 2, and 3. Further, additional growth will take place on vacant sites in the area of Central Avenue, Willow Street, Enterprise Drive and Filbert Street. Some additional development is anticipated on the west side of Cherry Street between Central Avenue and Mowry Avenue. In Area 1, industrial business park uses are provided for and it is anticipated that high quality design features will be applied in recognition of the highly visible conditions of the lands.

All new warehouse and industrial development will be accomplished in such a manner as to minimize the potential off-site impacts of the use and ensure a high degree of quality of building and site design. Further, in the Enterprise Drive area a *limited* industrial designation has been applied to lands adjacent to existing residential neighborhoods. The plan calls for conversion of general industrial lands to light industrial uses.

The intent of the *limited* designation is to guide conversion of land uses to ultimately eliminate those industrial use characteristics that have proven to cause nuisances for neighboring less intense uses. During the time that it takes to convert existing heavier industrial uses to less intense industrial type uses many operations will be "non-conforming" with this plan. It is intended that only minor modifications of these uses be permitted, mainly to ensure that contemporary environmental and safety standards are met. Other minor changes to the use and/or operation may be permitted as long as it is found that the changes do not intensify the non-conforming use of the property.

3.5 LAND USE GOALS, POLICIES AND PROGRAMS

The goals policies and programs of this element specifically address the anticipated growth and change over the next 20 years. They reflect the impacts of the strong borders that exist around Newark, including Highway 880, the Route 84 Freeway and San Francisco Bay National Wildlife Refuge. In addition, they are directed at improving the positive relationships of land uses in the city and providing the basis for enhancing the quality of life for Newark citizens.

GOAL 1. Maintain a desirable quality of life in the community through preservation of a small town, neighborhood atmosphere and the promotion of balanced land use.

Policy a. Maintain a reasonable balance of land uses within the city so that residents can live close to where they work; and, can satisfy their shopping, education, service and maintenance, personal business, health, entertainment and recreational needs close to home.

Program 1. Promote the city as a good location for "environmentally clean" "high-tech" industry and similar job producing activities to balance the housing that has been provided and to increase the opportunity for residents to work close to home.

Program 2 Diversify the retail base of the city so that there will be an assured flow of income to support the services and facilities needed to maintain and enhance the quality of life of those who live and work within the City.

Program 3 Develop additional executive housing so that a range of housing types will be available and so that residents will have the opportunity to find "move-up" housing within the City.

Program 4. Provide for more park and recreation space and facilities to support the leisure needs of the citizens of Newark close to home.

Program 5. Use established environmental review processes and programs to minimize the potential impacts (e.g., air quality, water quality, traffic, etc.) of any new development within the City to levels that are determined acceptable.

Program 6. Continue to pursue the *Five-Year Strategic Planning Process*, including the annual review and up-date of the Strategic Plan. The Strategic Plan shall identify specific objectives for the Five year period taking into consideration the resources of the City. The Plan shall be in conformity with the goals and objectives of this General Plan.

Policy b. Assure that new development generates revenue sufficient to offset the cost of public services and facilities and pays its reasonable share of the cost of new public facilities.

Program 7. Develop and maintain fiscal analysis that considers the public facilities needs of new development, the revenue generated by that development and sources of financing available for new public facilities.

Program 8. Encourage the development of the remaining vacant land for its highest and best use in line with the designations shown on the General Plan Diagram.

GOAL 2. *Promote high quality development that establishes the city's character as distinctive from that of the other cities in the Bay area.*

Policy a. Maintain high standards for design and appearance of all new development, with special emphasis for those areas adjacent to the city's entrances and along major arterial streets.

Program 1. Establish a distinctive character for each of the the city's gateways including elements of sculpture and other art forms, landscaping, paving, lighting, signage., etc.

Program 2. Establish a program of "Art in Public Places and Private Developments." The program should be for the promotion of art that is either accessible or visible to the public. The art should be conveniently or prominently situated in public places and new developments. Public art is defined as *any work of art displayed in an open area or on the exterior of any facility, public areas, lobbies, or public assembly areas on City or privately owned property and is visible or accessible to the public.*

Program 3. Utilize the city's median and street tree policies to assure high quality improvements in the streetscape with particular emphasis at the city's gateways.

Program 4. Landscape along major arterials and at the major entrances.

Policy b. Encourage architectural styles for new development that are compatible with, and complement adjacent developments, and that will enhance the overall quality of the development and the area.

Program 4. Maintain design guidelines and a design review process that apply to building and site design throughout the city.

Program 5. Assure that new multi-family projects have adequate landscaping, off-street parking, recreational facilities and provisions for management and maintenance.

Policy c. Upgrade existing structures and sites, particularly those located along major arterials, where deficiencies in appearance and aesthetics create a negative image of the city and/or impact on the value of property.

Program 6. Improve the appearance of existing development by encouraging adequate landscaping, the maintenance of existing buildings and the use of materials for upgrading the buildings that are of higher quality than may presently exists.

Policy d. Support preservation of the lands of the San Francisco Bay National Wildlife Refuge, and protection of San Francisco Bay and bay lands.

Program 7. Support the activities of Federal, State and regional agencies to preserve the existing lands of the San Francisco Bay National Wildlife Refuge.

Program 8. Encourage potentially affected property owners to enter into early negotiations with appropriate agencies to resolve debates over wetlands areas and claims as to whether or not their lands should be included in areas of federal jurisdiction.

Program 9. Evaluate new development to ensure that it will not adversely affect water quality.

GOAL 3. *Maintain the quality of life by assuring the compatibility of land uses.*

Policy a. Protect stable single family neighborhoods from unwarranted conversions to higher density development and inappropriate adjacent uses.

Program 1. Assure that infill development is compatible with adjacent residential uses.

Program 2. Enforce setback and height requirements to assure provision of adequate light and air.

Program 3. Assure that all new structures and additions are aesthetically compatible with adjacent development.

Program 4. Maintain minimum standards for new multi-family projects that assure high quality developments.

Policy b. Discourage development of property adjacent to major transportation corridors that will be negatively impacted by the traffic in those corridors.

Program 5. Design new residential development to minimize the impact of rail lines and major arterials, particularly in terms of the potential impacts of truck traffic.

Program 6. Provide adequate setbacks and landscape screening for new development along major arterials.

Program 7. Establish transport routes for hazardous materials that are away from residential areas.

Policy c. Provide opportunities for mixed-use development where the impacts of one land use upon another are sufficiently mitigated.

Program 8. Permit mixed residential/commercial development along Thornton Avenue in the Historic Newark area.

Program 9. Provide zoning districts that provide standards for multi-use development as well as for unique combinations of similar uses, such as single- with multi-family uses.

Policy d. Provide for control of excessive exterior lighting.

Program 10. Utilize the city's development regulations and design review procedures to reduce potential light and glare impacts to non-significant levels. Design review procedures should encourage consideration of the following:

- o Use of low pressure sodium lights where security needs permit;
- o Restricting height of exterior lighting fixtures to minimize light spill;
- o Directing exterior lighting on-site to minimize spill-over;
- o Shielding for exterior lights;
- o Minimizing use of highly reflective exterior building materials,
- o Restricting hours of non-security exterior lighting for commercial, industrial and institutional uses.

Program 11. Work with public and private land owners and organizations to minimize off-site impacts of exterior lighting associated with public and private recreational activities.

3.6 GENERAL PLAN DIAGRAM

The General Plan Diagram not only shows the proposed uses for lands, and the location of circulation facilities within the City; but, it also is a statement of the City's intent with regard to the public and private development and redevelopment and preservation of properties. It is the graphic representation of the written goals, policies, programs of the General Plan. The general plan text and plan diagram work hand in hand; and, if the plan is to be effective in guiding land use decisions, the text and diagram must be considered together.

3.7. DESCRIPTION OF MAJOR LAND USE PROPOSALS

The major land use changes that the plan proposes, and anticipates over the plan period are described below by location with respect to the infill area and the six special general plan areas shown on Figure 2-2.

"Infill" Area

In addition to the build-out of the Four Corners area pursuant to the *Four Corners Area Plan* and growth and change in Historic Newark, pursuant to the *Historic Newark Area Plan*, the following major developments or change to existing developments are planned for the Infill area of the City:

Regional Commercial, i.e., NewPark Mall Area, and Adjacent Community Commercial Designated Lands. These commercial resources are important because they provide a broad range of shopping opportunities for Newark citizens and significant sales tax income that helps support City services. Build-out of the lands will continue during the plan period. In order to ensure that new development is compatible with existing uses and that all new growth and change will enhance the

attractive qualities of this retail environment, special design controls will be applied. These controls will be important to, for example, protect the open space/park use of the *Eucalyptus Grove*, (see Chapter 7, Recreation) and to ensure new commercial uses are of superior design because they will be highly visible from arterial streets. Further, the controls are intended to encourage positive relationships to the existing mall uses. [Note: It is intended that the controls be applied like other zoning regulations (e.g., building setback and height limits) at the time of normal building permit review.] All new development shall result in the highest quality of design, including, but not limited to the following standards :

- o Site design and layout shall provide for smooth flow of on-site circulation, safe access to the street system, and pedestrian and public transit access, where possible.
- o The mass and scale of buildings shall be compatible with adjacent uses and shall result in a proper balance between structures and landscaping on the site.
- o All building elevations facing public streets shall be designed to have variety of form and texture. Materials shall be of high quality and shall be selected to enhance the attractiveness of the structure and to be in harmony with other development in the area.
- o All loading docks shall be sited to be invisible from the adjacent public streets.
- o Signage and exterior lighting shall complement the architecture of the project and shall be limited to only that needed for safety and for reasonable identification of the site and the uses on the site.
- o Landscaping shall be provided along all street frontages to soften the impacts of structures, parking areas, loading docks, etc. Building walls shall not be located immediately adjacent to street/sidewalks.
- o Where possible, landscaping, including appropriate irrigation systems, shall be provided within the public right-of-way, and landscape easement frontages of developments.

Neighborhood Shopping Area at Newark Boulevard and Mayhews Landing Road. The plan proposes a single family medium density (6.5 to 15.0 units per acre) option for this 5.4 acre site. The site, known as Fry's or Purity Plaza, contains neighborhood retail uses, but it has had a history of economic uncertainty and the quality of the uses have varied greatly. Further, there has been, at times, lack of maintenance. Competition from other retail uses will further impact the viability of this center. The site is surrounded by single family residential uses. As a result, the plan shows the residential option. If the existing use ceases, new use of the property should conform with this optional designation. This will allow for approximately 52 units on the property.

Inland Container Properties (two parcels), 28 Acres Northeast of Intersection of Cedar Boulevard and Central Avenue. This two parcel site is bounded by Cedar Boulevard, railroad tracks, the Newark Union School District maintenance yard, and Central Avenue. The plan proposes *limited industrial* uses for these properties with an alternative designation of *medium density residential*. Inland Container Corporation controls the lands, and its industrial operations are located on the 16 acre northern most parcel. The southern parcel is vacant. The existing use, while not having a history of adverse impacts on adjoining properties, is not highly compatible with adjacent uses. The vacant southern parcel is immediately adjacent to Louis Milani Sr. Elementary School and residential development. Also, the plan proposes that Cedar Boulevard be the ultimate dividing line between commercial and industrial uses to the east and residential uses to the west. At the same time, the plan recognizes that the conversion from industrial to residential use is not highly likely during the early or even mid-terms of the plan period. As a result, the existing industrial zoning designation may be preserved on the site and the existing Inland Container use continue as a conforming use, both with this plan and the zoning. The alternative medium density residential designation would take control at the time the existing use ceases. In the interim, the Inland Container use would continue, and will be permitted to perform routine maintenance and upgrades, to modernize and make technological modifications to stay current with the paper mill and box plant industry, to add utility and energy conservation facilities as well as make changes and expansions as necessary to comply with contemporary environmental quality, and safety standards,

and improve efficiency but that do not result in any significant expansion or intensification of the existing uses. Minor uses accessory to the main industrial use may also be premitted on the vacant parcel as long as these uses also do not significantly change the character or intensity of the operation. All proposals for change or modifiction of the existing operation shall be evaluated for conformance with the provisions of this plan. Further, actions have already been and will continue to be taken to upgrade the aesthetics of the site, and minimize off-site impacts of the operation, including traffic congestion, or movement.

Wells Avenue Area, 12+ Acres Immediately North of the Wells Avenue Intersection with Enterprise Drive. The plan proposes medium density residential use for these lands with the following qualifications:

- o Properties on the south side of Wells Avenue may be developed for single family uses similar to the residential development pattern along Spruce Street or for multi-family use within the medium density unit limits.
- o The Silvey & Silvey, Inc. site on the north side of Wells should be designated medium density residential, and include the density bonus overlay as defined in the Historic Newark Area Plan.
- o The Hetch Hatchy right-of-way should be used only for open space purposes, except that this area may also be used for accessory residential parking when such use is approved by the City. [Note: The open space element of this plan calls for the Hetch Hatchy right-of-way to be used only for open space anywhere in the City where it has common boundary with a residential district.]

Current uses are for the most part industrial, but there are some residences in the area. The existing industrial uses are immediately adjacent to a residential neighborhood and the neighbors have experienced noise, air pollution and other impacts for many years. The plan proposed land use will provide an avenue for the ultimate elimination of the current adverse relationships.

Area 1

The land in this area lies between the Dumbarton Freeway and Jarvis Avenue, and is bounded on the east by the Bridgeway Technology Park (most of which is undeveloped, except that streets and other utility improvements and street-front landscaping have been installed). This area is planned and designated for special industrial business park use which would be a continuation of the land use pattern set by the Bridgeway Technology Park. Enhanced site and building design standards are required. In particular, the use of land shall include at least the following performance standards to accomplish a high quality development that is compatible with adjoining uses and that recognizes the Thornton Avenue entrance to the City:

- o Main access shall be from Thornton Avenue,
- o Substantial buffering/landscaping shall be established through site design to protect residential uses south of Jarvis Avenue,
- o High quality site and building design standards are required,
- o The impact of development on the City entry must be carefully planned
- o Wetlands constraints will be identified and if wetlands are present, their impact on development potential will be taken into account in development of the site plan.

Area 2

This complex shaped area is generally located south of Thornton Avenue and west of Willow Street. The existing uses include some vacant and open space lands as well as heavy industrial operations (e.g., FMC chemical plant and a 375,000 square foot warehouse/research and development complex), a railroad line, the Hetch Hatchy water line, and the Newark pump

station of the Union Sanitary District. Limited and general industrial and open space uses are designated for this area as follows:

- o Limited Industrial uses are shown for a portion of the FMC property immediately west of Willow Street and for lands immediately southwest of the intersection of the Willow Street and Thornton Avenue (i.e., generally the area of the King and Lyons development). The limited designation provides for a transition between residential uses to the northeast and more intense industrial uses to the south and southwest.
- o General industrial uses including the majority of the FMC facility and lands west of Willow Street.
- o Open Space uses are designated for the northwesternmost portion of the area.

It is also recognized that wetlands may have some impact on development potential of lands in this area. Thus, identification of wetlands constraints must be completed prior to formulation of any development proposal for lands in this area.

Area 3

This area is located west of Cherry Street, between Mowry Avenue and Stevenson Boulevard. The railroad tracks create the western boundary of the area. A City fire station and Sportsfield Park are located along the southern frontage of Mowry Avenue. The plan provides for expansion of the Park (see Chapter 7, Recreation). Special business park use is planned for the remainder of the area. [Note: the plan specifically recognizes the plans approved for the 86 acre Sun Microsystems project in 1989 and the provisions in the high-tech business park plan and EIR approved for the "Sobrato" lands in 1984-85].

Area 4

These lands are west of Area 3 and the railroad tracks and extend to Mowry Slough. Mowry Avenue is the northern boundary, and a flood control channel and the Durham Road Landfill in Fremont form the southern boundary. The area is planned for low density residential use (4.2-8.5 units per acre), a golf course (subject to its feasibility) and open space with the following conditions and qualifications:

- o Residential uses shall be high quality and include a mix of executive housing types.
- o An 18 hole golf course must be a component of the development *unless* this use is found to be unreasonable and/or unfeasible by the City.
- o If a golf course is found unreasonable and/or unfeasible, then another recreation use that is acceptable to the City shall be provided as a condition of development.
- o Development must be guided by a Specific Plan,
- o Any development needs to contribute its *fair share* toward community recreation facilities (e.g., a community swimming pool).
- o Wetlands will impact development potential.
- o Development will take into consideration traffic/level of service impacts in conjunction with the benefits derived from the proposed development(s).
- o One railroad overcrossing will be needed at the Stevenson Boulevard crossing of the tracks.

The planned use of this area is also limited by the following policy:

Given the problems with access to Area 4, this area may only develop if, (1) a major north-south access corridor is extended either from the north or from the south, or, (2) in the absence of such a major roadway improvement, this area may develop if significant recreation amenities are provided that include (a) a golf course and (b) development of a swim center, or substantial contri-

bution toward a City-wide swim center, or, (3) if the development of a golf course and/or swim center is unfeasible as determined by the City, then residential development may proceed with other recreation facilities acceptable to the City when a *Specific Plan* is adopted by the City. It is intended that development in this area provide for its fair share of community-wide recreation amenities.

The requirement for a Specific Plan is necessary due to the complex conditions in this area, including access and ownership pattern. Further, development of this area will require property owners to reach agreements with the City on the issues set forth above within the Specific Plan process. The Specific Plan may be implemented through a Development Agreement. Once the Specific Plan is adopted and any agreements in place, building permits may be issued, and development may proceed on those portions of Area 4 where the required Federal agency(s) approval(s) have been received.

Prior to development of a Specific Plan, an Area Plan will likely be needed. The area plan will become a part of this General Plan (as is the case with the other area plans referenced herein) and will establish more detailed development goals, policies and programs for this area.

Once a specific plan is adopted, a number of steps can be taken to assure that development occurs in the manner prescribed in the Plan. Area 4 contains roughly 450 acres of developable land. Development, based on the criteria established above, will require: (1) substantial fill to meet the City's minimum top of curb elevation as specified in the Municipal Code; (2) a grade separation at Stevenson Boulevard; (3) an 18-hole golf course (if found feasible); and (4) a contribution toward a community swimming pool. The magnitude of the improvement obligation may dictate a *maximum* number of units in order to make development of this area feasible.

The specific plan will identify all facilities, allocate costs for construction of these facilities, and identify the number and type of housing units for the area. The construction of the facilities may require the use of an assessment district for financing certain improvements such as the infrastructure and a grade separation. Other improvements, such as the golf course, other recreation uses and the possible contribution toward the operating costs of recreation uses may require a Mello-Roos district that will permit funds to be utilized for the construction and operation of recreation facilities. (This is not permitted under an assessment district.) The specific plan approach will be essential to the determination of the range of public and private facilities that can realistically be accommodated and financed. If, based on the specific plan studies, it is determined that the desired housing can be achieved but a golf course is unreasonable and/or unfeasible, the City may elect to eliminate the golf course from the development requirements for Area 4.

NOTE: A. The specific plan that is called for to define development in Area 4, will serve as the implementation guide for a complex series of actions that must take place in order for the area to develop. Under State law, a specific plan must include:

1. The distribution, location and extent of the uses of land, including open space, within the area covered by the plan.
2. The proposed distribution, location, extent and intensity of major components of public and private transportation, sewage, water, drainage, solid waste disposal, energy and other facilities proposed to be located within the area covered by the plan and needed to support the land uses described in the plan.
3. The standards and criteria by which development will proceed, and standards for the conservation, development and utilization of natural resources, where applicable.
4. A program of implementation measures, including regulations, programs, public works projects, and financing measures necessary to carry out the above activities.

B. Any planning line developed as a part of the Specific Plan process to be used to determine wetlands shall serve only as a guide pending final determination by the applicable State and Federal agencies at which time the boundaries defining the wetlands area may be adjusted without the need to modify the General Plan.

Area 5a

General Industrial is planned for the 15 acre parcel north of the railroad tracks owned by Cargill Salt (i.e., the site of the old waste water treatment facility). Open space and conservation is planned for the remainder of the area. Special precautions shall be required as needed to protect the Hetch Hetchy water system pipes that are located above ground in the area of the old waste water treatment facility.

Area 5b

The planned use is open space and conservation (see discussion in Chapter 6, Open Space and Conservation). The uses would include agriculture and open space for resource production. The intent and understanding of this direction is to allow the existing Cargill Salt uses to continue during the 20 year plan period.

Area 6

This 126 acre area is known as *Mayhews Landing* and is under single ownership. Low density residential and open space are the planned uses with the following specific limitations:

- o Significant open space will occur in this area due to wetlands constraints and residential uses will be clustered in the northeast quadrant.
- o The low density residential designation applies to only the area that is ultimately proven to be unconstrained by wetlands and that is not sold to the Federal government for inclusion in the wildlife refuge. The plan anticipates that no more than the northeastern most 46 acres would be available for residential development. If, following completion of negotiations with the Federal agencies, significantly more land is available for development, a general plan amendment will have to be proposed and found acceptable by the City prior to allowing any such greater development. There is no guarantee that even if more land became available that it would be found appropriate for greater development due to potential traffic, visual, and other impacts.
- o Development of the 46 acres will be limited to a maximum of 300 residential units. Only single family detached housing will be permitted on parcels adjacent to existing residential areas.
- o Full access shall only be from Jarvis Avenue and a minimum of two access points shall be provided. There shall be no emergency connection to either Cedar Boulevard or Thornton Avenue.
- o Some form of buffer area, either larger lots and/or building setbacks, may be provided where the new development is common with existing residences.
- o Building limits shall be established to minimize potential privacy impacts on the existing residences to the east. Height limits may be needed depending on the amount of fill that is required to mitigate flood hazard potential.
- o Any new development shall contribute its fair share toward community recreation facilities.
- o Development in Area 6 must be under the provisions of a planned unit development that is consistent with this general plan.

If, as a result of settled negotiations with the Federal agencies, all of Area 6 is acquired for wildlife refuge expansion, then *open space* will be the permitted use.

3.8 ECONOMIC CONSEQUENCES OF THE LAND USE PLAN

In line with Goal 1, Policy a of this Chapter, the land use plan as represented by the Plan Diagram has been analyzed to determine its impact on the City's general operating fund. Table 3-2. sets forth the outcome of this analysis. *It demonstrates that the plan will generate a positive fiscal outcome for the City's general operating fund* (Source: Angus McDonald & Associates).

3.9 DEFINITION OF LAND USE CATEGORIES

Listed and defined below are the land use categories and boundaries that are shown on the General Plan Diagram. For the residential uses, the densities shown are maximums, and there is no guarantee that any individual project will be able to achieve the maximum densities. Further, in the event of a discrepancy between residential units per acre and persons per acre, the unit and not the population density shall govern. For the commercial and industrial categories, the specific uses identified are for illustration only. Further, it is the specific intent of this plan, that land use descriptions establish the framework for the zoning districts that will be used to implement the plan. It is further intended that the zoning districts contain very specific performance standards to ensure the achievement of the land use concepts described in the following definitions.

Table 3-2
REVENUES AND EXPENDITURES FY 2007/08
(Constant 1988/89 Dollars)

Budget Item	FY 1988/89 City Budget Estimate	Existing Development	FY 2007/2008	
			Growth Under General Plan	Total Existing & Growth
Revenues				
City General Operating Fund	\$15,329,000	\$16,022,000	\$7,333,300	\$23,355,300
Road Fund Revenues (1)	2,011,000	320,200	102,000	422,400
Other Outlay Funds	459,000	9,700	219,000	228,700
Grants and Transfers	1,178,000	0	0	0
Total Revenues	\$18,977,000	\$16,351,900	\$7,654,500	\$24,006,400
Expenditures				
General Fund Total	\$15,228,000	\$14,706,500	\$6,280,500	\$20,987,000
Road Fund Expenditures	400,00	400,000	208,100	608,100
Grant Expenditures	3,088,000	0	0	0
Adjustment, ISF Capital Projects	34,000	0	0	0
Total Expenditures	\$18,750,000	\$15,106,500	\$6,488,600	\$21,595,100
Net Surplus (Deficit)	\$227,000	\$1,245,400	\$1,165,900	\$2,411,300
Notes:				
(1) 1988/89 revenues include Road Grant Funds (FAU & TDA)				
Source: Angus McDonald & Associates				

Very Low Density Residential: 1-3 dwellings/net acre, 3 to 10 persons/net acre. This category is intended to foster development of high quality, detached single-family housing on lots with an

average of 20,000 square feet and that range in size from 10,000 to 40,000 square feet. For the purposes of this plan, the average density is assumed to be 2 units (7 persons) per net acre.

Low Density Residential: *4.2-8.5 dwellings/net acre, 13 to 27 persons/net acre.* This category is intended to encourage residential development which is predominantly single-family and that is in densities which range from 4.2 to 8.5 units per acre. For General Plan purposes, the average density is assumed to be 6.5 units (20 persons) per net acre.

Medium Density Residential: *6.5-15 dwellings/net acre, 21 to 50 persons/net acre.* This category is intended to encourage medium density ownership or rental housing varying in density between 6.5 and 15 units per net acre. For the purposes of this plan, the average density in this category is assumed to be 10 units per net acre. However, densities greater than 10 units per acre will only be allowed on properties which have their primary access on a collector or arterial street and which are found to be compatible with the character and intensity of residential development in the immediate area. If this category is combined with a *Density Bonus Overlay Zone*, the maximum density permitted may increase to 27 units per acre pursuant to the standards and conditions set forth in the overlay zone provisions. The Density Bonus Overlay is proposed to apply to medium density developments within the Historic Newark area, and lands north of the intersection of Wells Avenue and Enterprise Drive. Further, it is intended that the bonus also apply to medium density residential development of the "Inland Container" properties northwest of the intersection of Cedar Boulevard and Central Avenue. The application of the overlay zone is intended to help meet the housing needs in the community and, also, increase the population in certain areas of the City to ensure vitality and support neighborhood commercial facilities

High Density Residential: *15 to 30 dwellings/net acre, 48 to 84 persons/net acre.* This category is intended to encourage residential development with a density range of 15 to 30 units per net acre. For the purposes of this plan, the average density in this category is assumed to be 20 units (64 persons) per net acre. However, densities greater than 20 units per acre will only be allowed on properties which have their primary access on a collector or arterial street and which are found to be compatible with the character and intensity of residential development in the immediate area. If this category is combined with a *Density Bonus Overlay Zone*, the density permitted may increase to a maximum of 39 units per acre. However, given the standards for new development which increase off-street parking and landscape area, the practical maximum for this category with the Density Bonus is 27-28 units per acre. The Density Bonus Overlay would apply to high density development in the Historic Newark area. (See discussion above under *Medium Density Residential* for more discussion on the Density Bonus Overlay Zone).

General Industrial: This designation is intended to accommodate a broad range of manufacturing, warehousing, and distribution uses. General Industrial areas should not be located next to residential, commercial or other sensitive uses because they are often characterized by unsightly outdoor storage, noise, odors, and heavy truck activity. Uses are regulated through performance standards to minimize adverse impacts on adjacent uses and the City. *Maximum floor area ratio (FAR)* is 0.5:1. General Industrial uses are located in the Central Avenue area from Filbert Street to west of Willow Street. Also General Industrial uses are located west of Cherry Street, between Central Avenue and Mowry Avenue.

Limited Industrial: This category is intended to serve as a transition area between general industrial type uses and residential, commercial or other lower intensity uses. Uses such as light manufacturing, wholesale distribution, warehouses, sales and office uses which are characterized by a high standard of property maintenance including landscaping are envisioned in this area. All manufacturing uses will be the type that are compatible with adjacent less intensive uses such as residential. Performance standards are imposed to reduce or eliminate the potential for nuisance. *Maximum FAR* is 0.4:1. Limited industrial uses are located in the Enterprise Drive area and along Thornton Avenue and Willow Street on the north west side of the City. Further, Limited Industrial

uses are provided for between Cedar Boulevard and the 880 Freeway generally between Mowry Avenue and the railroad tracks north of Central Avenue. This designation is also applied to lands northwest of the intersection of Cedar Boulevard and Central Avenue with special qualifications (see discussion earlier in this element relative to the Inland Container properties).

Special Industrial: This designation is intended to foster development of the highest standards of building design, landscaping, and aesthetic amenities. Uses allowed are those associated with advanced technology, commercial research and development, and manufacturing. Performance standards are imposed to ensure that such uses and facilities will have no nuisances and therefore, will be appropriate neighbors to residential and other more sensitive uses.

Typical users will include "High Tech", i.e., research and development and manufacturing uses which relate to advance technology development and manufacturing, in areas of electronics, aviation, robotics, biotechnology, medicine and the like; and "Business Park", i.e., well-designed, master-planned campus-type developments which accommodate high technology uses and corporate and business offices. Business parks are planned, developed and managed as a unit. *Maximum FAR is 0.35:1.*

Special Industrial business park uses are provided for in Area 1 between Jarvis Avenue and the Dumbarton Freeway, and in Area 3, west of Cherry Street and north of Stevenson Boulevard.

Neighborhood Commercial: Neighborhood Commercial is a designation to encourage the development and preservation of shopping centers or a cluster of street-front stores which meet the day-to-day shopping needs of the surrounding residential neighborhood. A neighborhood shopping center is typically anchored by a supermarket and includes a drugstore, hardware store, and other retail and personal service uses which provide for the convenience shopping needs of nearby residents. *Maximum FAR is 0.3:1.* The plan recognizes existing neighborhood commercial uses near the intersection of Mayhews Landing Road and Newark Boulevard Avenue and on Jarvis Avenue at Haley Street. It also provides for a new neighborhood commercial center in the Historic Newark area.

Community Commercial: Community Commercial is a designation to encourage retail shopping facilities which serve the comparison shopping needs of the city's residents and workers. Such centers include supermarkets, limited line department stores, and discount stores, and are of sufficient size to provide a choice of shopping outlets. *Maximum FAR is 0.3:1.* Significant Community Commercial space is provided just south of the NewPark Mall area and in the Four Corners area around the intersections of Jarvis Avenue and Newark Boulevard

Regional Commercial: Regional Commercial is a designation to encourage the development of the largest and most complete shopping facilities in the city. The emphasis is on comparison shopping for a broad range of shopping needs which are not normally included in the neighborhood shopping category. Such centers are anchored by one or more full line department stores. *Maximum FAR is 0.4:1.* This designation is applied to lands in and around the NewPark Mall.

Office Commercial. Office Commercial is a designation to encourage offices associated with the provision of finance, insurance, real estate, and business services, as well as medical and professional offices in locations between residential uses and retail commercial areas. *Maximum FAR is 1.0:1.* Office Commercial uses are located on Thornton Avenue and Newark Boulevard near the intersection of these two streets. Further, office commercial uses are designated within the Historic Newark area.

Specialty Commercial. Specialty Commercial is a designation to encourage a combination of neighborhood and specialty commercial uses. Services and stores serving the daily needs of nearby residents would be provided for, as well as one-of-a-kind shops, restaurants and entertainment

outlets drawing from beyond the neighborhood. Examples would be specialty shops, art galleries, cafes and restaurants, and one-of-kind boutiques. Residential uses would be permitted within this designation.

Public-Institutional This category designates existing and proposed public facilities, such as fire stations, city administration offices, corporation yards, pumping stations and schools. *Maximum FAR is 0.25:1 for special facilities, such as fire stations and 1.0:1 for offices.*

Public Parks Open Space. This category designates open space lands whose primary purpose is recreation and whose character is urban. Buildings for recreation and community purposes are allowed. *Maximum FAR is 0.1:1.*

Conservation Open Space. This category designates sites for the protection of wildlife habitats and wetlands, generally in areas not used directly for human habitation or work. FAR is 0. This designation is applied to open space lands along the western boundary of urbanized Newark.

Agricultural/Resource Production Open Space. This category encourages the preservation of agricultural uses and uses for production of natural resources, including facilities and lands used for the production of salt. This designation is applied to large holdings of the Cargill Salt Company along the western boundary of the City.

Chapter 4. TRANSPORTATION

Chapter 4. TRANSPORTATION

4.1 INTRODUCTION AND PURPOSE

The Transportation Chapter describes the facilities for the movement of people and goods within and through the City. It is strongly related to the Land Use Chapter because it establishes the spatial characteristics of the transportation system including streets, highways, rail service, transit, bicycle and pedestrian facilities, and parking facilities needed to serve the planned land uses. It should be noted that the classifications and standards described under "Existing Conditions" of this chapter will continue to guide growth and change to the City's transportation system during the plan period.

4.2 EXISTING CONDITIONS

Roadway Functional Classification System

The Newark road network can be defined in terms of a functional hierarchy that takes into account the type of trip being made and the roadway's relationship to the uses it is serving. The Newark functional classification system is set forth below. Typical capacities for these types of roadways are shown in Figure 4-1. Figure 4-2 lists the *freeways*, and *arterial* and *collector* streets in Newark.

Freeway. High speed/high capacity transportation facility serving regional and county-wide travel. This limited access facility satisfies relatively long trips between major land use generators.

Arterial. These are either relatively high speed/high capacity roads that provide access to regional transportation facilities and serve relatively long trips, or medium speed/medium capacity roads for intra-community travel as well as access to the rest of the county-wide arterial highway system. Access to arterials should be via collector roads and local streets, but there is some direct frontage access to the arterial street system.

Collector. A collector is a relatively low-speed/low volume street typically two lanes, for circulation within and between neighborhoods. These roads serve relatively short trips from local streets and distribute them to the arterial network.

Local Streets. These are low speed/low volume roadways that provide direct access to abutting land uses. Driveways to individual units, on-street parking, and pedestrian access are allowed.

The Existing Roadway System

Newark is currently served by an extensive roadway network which includes freeways, arterials, collectors and local streets. Figure 4-3 shows the Freeway locations and the major street network of the City. Newark is served by two freeways. The **Nimitz Freeway (I-880)** is a six-lane freeway which runs north-south from Interstate 80 in Oakland to Interstate 280 in San Jose. It has four interchanges in the Newark area located at Stevenson Boulevard, Mowry Avenue, Thornton Avenue, and Highway 84. The **Dumbarton Freeway (State Route 84)** is a four-lane facility which runs east-west from I-580 in Livermore to State Highway 1 near San Gregorio. State Route 84 has

Figure 4-1
TYPICAL ROADWAY CAPACITIES
 (Source: TJKM)

<u>Roadway Type</u>	<u>Per Lane Per Hour</u>	<u>Two-Way Average Daily Traffic¹</u>
Two lane local streets ²	-	500
Two lane local collector streets ²	-	2,000 - 3,000
Two lane collector streets ²	-	6,000 - 9,000
Two lane arterial streets	850	15,000
Four lane arterial streets	750	30,000
Six lane arterial streets	750	45,000
Six lane freeway	2,000	120,000
Eight lane freeway	2,000	160,000
Ten lane freeway	2,000	200,000

¹ Values based on average daily traffic are volumes based on typical traffic conditions or Level of Service C rather than a true physical roadway capacity.

² Values are based on the "Environmental Capacity" of residential streets under typical conditions.

been temporarily restriped to six lanes. Newark Boulevard and Thornton Avenue both have interchanges with State Route 84.

In addition to the two existing freeways, the State Department of Transportation is actively planning a new regional north-south transportation corridor along the west side of the City that would parallel I-880. This facility, designated Route 61, would extend from the City of Alameda to Santa Clara County. It appears that the construction of this route will be needed to achieve acceptable traffic flows within the City of Newark, and the City has adopted policy statements in general support of Route 61 planning efforts.

Figure 4-2
CLASSIFICATION OF NEWARK ROADWAYS

FREEWAYS

Nimitz Freeway (Interstate 880)
Dumbarton Freeway (State Route 84)

ARTERIAL STREETS

Jarvis Avenue
Thornton Avenue
Central Avenue
Mowry Avenue
Stevenson Boulevard

Cherry Street (south of Thornton)
Newark Boulevard
Cedar Boulevard
Lake Boulevard

COLLECTOR STREETS

Edgewater Drive
Balentine Drive
Lafayette Avenue
Haley Street
Carter Street
Spruce Street (north of Thornton)
Mayhews Landing Road
Willow Street

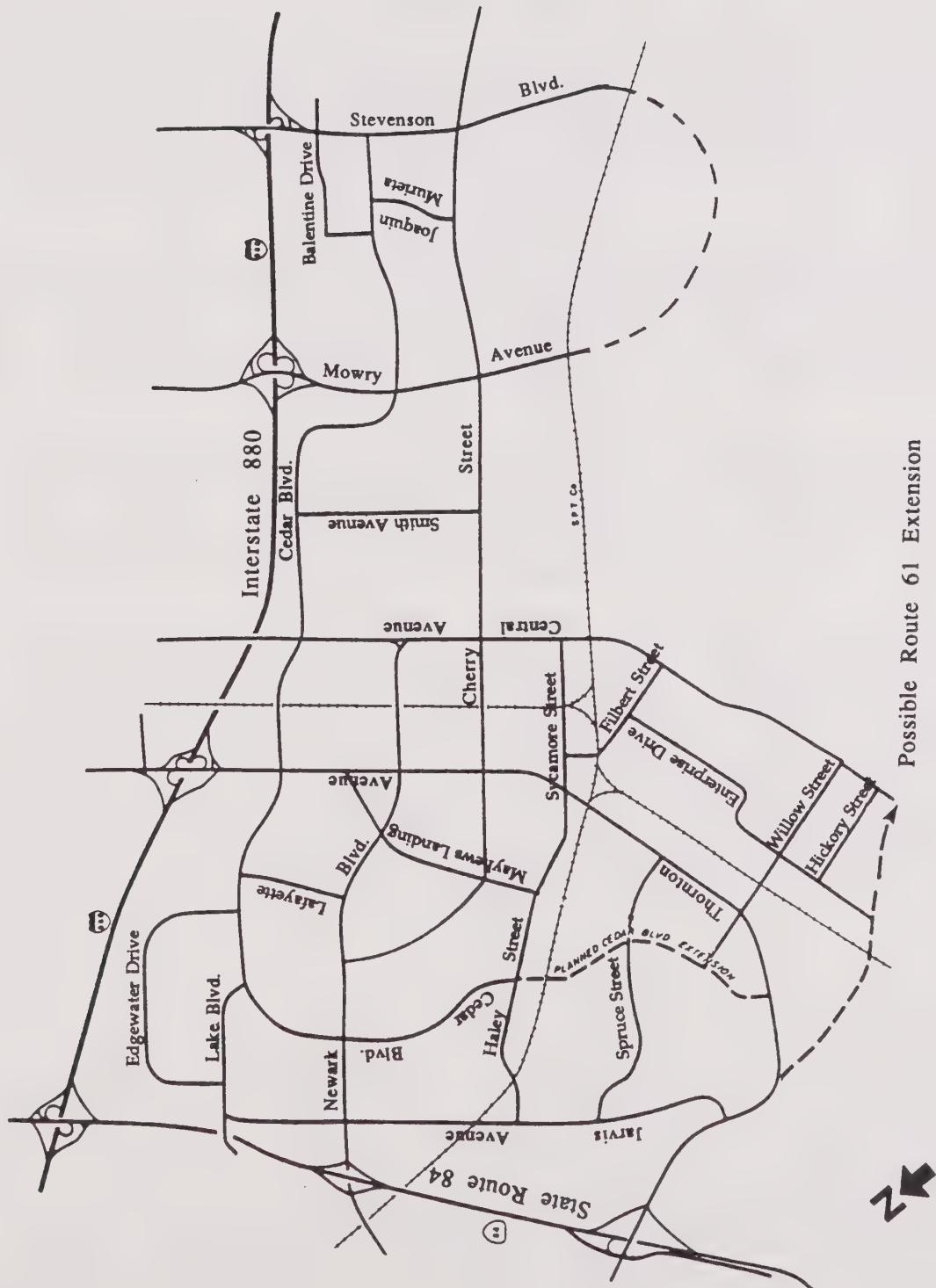
Enterprise Drive
Hickory Street
Filbert Street
Sycamore Street
Smith Avenue (east of Cherry Street)
Mowry Avenue (west of Cherry St.)
Joaquin Murieta Avenue
Brittany Dr./Cherry St. (no. of Thornton)

Of the five local interchanges directly serving Newark, the Thornton Avenue/I-880 and Mowry Avenue/I-880 interchanges carry the greatest number of vehicles each day. There are four lanes on the Stevenson Boulevard overpass across I-880, on Newark Boulevard under the State Route 84 structure and on Thornton Avenue across State Route 84. All other overpass structures over the freeways have two lanes, including the Central Avenue overcrossing across I-880.

There are five major east-west running arterials in Newark. Four of these arterials (*Stevenson Boulevard, Mowry Avenue, Central Avenue, and Thornton Avenue*) extend into the City of Fremont across I-880. *Jarvis Avenue*, which provided a direct connection between I-880 and Route 84 prior to completion of State Route 84, currently ends at Lake Boulevard.

Stevenson Boulevard has six lanes between I-880 and Cedar Boulevard and four lanes between Cedar boulevard and Cherry Street.

Figure 4-3
MAJOR ROADWAY NETWORK



Mowry Avenue has 6 lanes east of Cedar Boulevard changing to a four-lane divided facility west of Cedar Boulevard and a two-lane undivided facility west of Cherry Street. Mowry Avenue provides the primary access to the major regional shopping center of NewPark Mall.

Central Avenue is a four lane divided facility east of Cherry Street and a four-lane, undivided roadway between Cherry Street and Filbert Street. It narrows to two lanes west of the Southern Pacific Railroad tracks. Central Avenue does not have an interchange with I-880 and carries the least amount of traffic of the four arterials crossing I-880.

Thornton Avenue has four lanes east of Olive Street and west of I-880. Thornton Avenue was designated Route 84 before the completion of State Route 84. The City and the State Department of Transportation (Caltrans) have negotiated a relinquishment plan to transfer the jurisdiction of the Thornton Avenue to the City of Newark. Because of its historical State Highway status, and since it has interchanges with the I-880 and State Route 84, Thornton Avenue carries the heaviest through traffic load of all streets in Newark.

There are three major north-south arterials within the City, none of which are thoroughfares, running from the southern City boundary to the northern City limits. **Cherry Street** is a four-lane major arterial from Thornton Avenue to a point 1,500 feet north of Stevenson Boulevard and a six lane divided arterial from that point to Stevenson Boulevard. North of Thornton Avenue, Cherry Street is a two-lane undivided local street serving a residential area. South of Stevenson Boulevard in Fremont, Cherry Street becomes Boyce Road.

Newark Boulevard is a four-lane divided facility, running generally parallel to I-880 from Central Avenue to the Dumbarton Freeway. There is a grade separation (overpass) at the Southern Pacific Railroad. The traffic volumes on Newark Boulevard gradually increase from south to north, extending to the State Route 84 interchange. Newark Boulevard is planned to be improved to a six lane, divided roadway from Jarvis Avenue to Route 84.

Cedar Boulevard is a four-lane divided roadway between Stevenson Boulevard and Birch Street, serving commercial/office uses on the east side and residential or commercial uses on the west side of the street. Between Birch Street and Thornton Avenue, the roadway, serving primarily industrial and residential areas, has four through lanes and in most places, a center two-way left turn lane. Between Thornton Avenue and Lido Boulevard, the roadway runs largely through a residential area with four travel lanes and a raised median, transitioning to a divided, two lane arterial west of Lido Boulevard to Haley Street. West of Newark Boulevard, Cedar Boulevard turns toward the southwest. Although Cedar Boulevard is planned to continue southwest of Haley Street to Thornton Avenue, only a two lane undivided section from Bridgepointe Drive to Willow Street has been constructed. Curb, gutter and sidewalk improvements have been installed on the remaining unimproved section of Cedar Boulevard.

Lake Boulevard is the only other designated major arterial in Newark. The two lane divided roadway serves the Lake residential area and provides access to the Ardenwood Regional Preserve.

There are a total of 27 signalized intersections within the City of Newark (Figure 4-4). Future traffic signal installations include the intersections of Stevenson Boulevard/Cherry Street, Cherry Street/New Technology Park South Access, Cherry Street/New Technology Park North Access, Cedar Boulevard/Mowry School Road, Balentine Drive/John Muir Drive, Jarvis Avenue/Fircrest Street, Jarvis Avenue/Raley's shopping center entrance and Thornton Avenue/Willow Street. A traffic signal interconnect system (partially funded by Area Improvement District 22) is planned to be installed to coordinate signals along Stevenson Boulevard and Cherry Street. The system will include signal installations at the intersections of Stevenson Boulevard/Balentine Street, Stevenson Boulevard at Cedar Boulevard, Stevenson Boulevard/Cherry Street (future), Cherry Street/New Technology Park South Access (future), Cherry Street/New Technology Park North

Figure 4-4
TRAFFIC SIGNAL LOCATIONS
(Source: TJKM)



Scale: 1" = Approx. 3,500 feet

Access (future), Cherry Street/Mowry Avenue and Cherry Street/Peterbilt Driveway. The system can be expanded in the future to include more intersections. A second traffic signal interconnect system is planned for Thornton Avenue between I-880 and Sycamore Street. Existing Traffic Signals on Thornton Avenue from Cedar Boulevard (near I-880) to Sycamore will have interconnect conduit constructed with the State Relinquishment Project.

Existing operational conditions at intersections in Newark (other than those within freeway interchanges) are generally satisfactory except around NewPark Mall. Long term projections indicate that a significant number of the major intersections in Newark would be operating at or near capacity. However, with the application of some typical mitigation measures, the future conditions at these intersections will remain at acceptable levels.

Roadway Standards

The City has adopted numerous roadway standards and requirements to protect the safety and welfare of its citizens. Public streets within the City limits are constructed and maintained to City standards. Most City streets feature at least 12-foot wide lanes plus curbs, gutters and sidewalks. Some lanes are as wide as 16 feet. Wider lanes improve traffic safety and flow conditions. STOP signs, traffic signals, pedestrian crosswalks and bicycle lanes are installed where traffic conditions warrant and sufficient rights-of-way exist. Exceptions include older streets which were built prior to modern road standards, areas in which insufficient rights-of-way are available for roadway improvements, or streets for which insufficient funds exist for improvements.

Appendix T-A, at the end of this chapter, lists current and proposed street right-of-way and curb-to-curb widths for arterial and collector streets in Newark. Typical street cross sections are also shown. Generally, arterials are 4 to 6 lanes in width, either divided or undivided, while collector streets are 2 to 4 lanes wide.

Changes are proposed for several streets as listed in Appendix T-A. Changes for a roadway section are highlighted in bold text. These changes are summarized below:

Cedar Boulevard. That portion of Cedar Boulevard between Thornton Avenue (west) and Lido Boulevard is being down-sized from a four-lane divided arterial to a two-lane arterial; right-of-way and curb to curb widths remain as currently exist. Cedar Boulevard between Thornton Avenue (east) and Civic Terrace Avenue is proposed to be ultimately increased from a four-lane undivided arterial to a four-lane divided arterial (104' right-of-way). An additional 10' of right-of-way is proposed for that portion of Cedar Boulevard between Civic Terrace Avenue and Birch Street to allow for construction of a two-way left turn lane (Street Standard A3 as discussed further in this section) and also accommodate bike lanes/parking lanes.

Central Avenue. An additional 10' of right-of-way is proposed for Central Avenue between Cherry Street and Filbert Street to allow for incorporation of the new four-lane, undivided arterial with a two-way left-turn lane (Street Standard A3). Revisions for that portion of Central Avenue between Filbert Street and Willow Street reflect existing geometrics. That portion of Central Avenue between Willow Street and the West Side Arterial are proposed new street sections.

Cherry Street. Changes proposed for Cherry Street between Thornton Avenue and Central Avenue are to conform to standard geometrics with a full 10' between the curb and gutter and right-of-way line to allow for an adequate street tree planting area. The increase in street width from four lanes to six lanes for that portion of Cherry Street south of Joaquin Murieta Avenue reflects existing geometrics.

Lake Boulevard. The down-sizing of this street from a four-lane divided arterial to two-lane divided arterial recognizes the reduction in projected traffic volumes for this street. Prior to the

construction of Rte. 84, this section of Lake Boulevard was anticipated to provide a direct connection to Fremont north of Route 84 and the North Plain Area.

Mowry Avenue. The increase in street width for Mowry Avenue from a four-lane to six-lane arterial from I-880 to Cedar Boulevard reflects existing geometrics. The increase in the street width for that portion of Mowry Avenue between Cherry Street and Area 4 reflects anticipated development for the area west of the railroad tracks.

Newark Boulevard. That portion of Newark Boulevard between Rte. 84 and Jarvis Avenue is proposed as a six-lane arterial due to traffic volumes projected for this section of roadway.

Stevenson Boulevard. The increase in street width for Stevenson Boulevard from a four-lane to six-lane arterial from I-880 to Cedar Boulevard reflects existing geometrics. The change from a four-lane undivided arterial to a four-lane divided arterial west of Cherry Street is to conform to street widths included in the City of Fremont General Plan and to accommodate anticipated traffic volumes.

Thornton Avenue. Projected traffic volumes for that portion of Thornton Avenue between I-880 and Cedar Boulevard indicate the need to increase the ultimate street width for this section of roadway from a four-lane divided arterial to a six-lane divided arterial. The changes for that section from Cedar Boulevard to Olive Street and from Willow Street to Cedar Boulevard are to conform to standard geometrics and provide a full 10' between the curb and gutter and right-of-way line to allow adequate room for street trees. An additional 24' right-of-way is proposed for that section of Thornton Avenue between Olive Street and Willow Street to allow for the ultimate construction of a standard four-lane divided arterial. Anticipated traffic volumes for that portion of Thornton Avenue between Jarvis Avenue and Rte. 84 indicate the need to up-size this portion of roadway from a four-lane divided arterial to a six-lane divided arterial.

Most changes proposed for collector streets reflect existing street geometrics. Such revisions affect portions of Balentine Drive, Cherry Street/Brittany Drive, Edgewater Drive, Haley Street, Joaquin Murieta Avenue, Lafayette Avenue, Mayhews Landing Road, Smith Avenue, Spruce Street, and Willow Street. Other changes to collector streets are as follows:

Carter Street/Filbert Street. Traffic volumes and the need for frontage access indicates the need for a two-way left-turn lane for that portion of Carter Street/Filbert Street between Sycamore Street and Enterprise Drive. Revisions for the balance of this street are to conform to standard cross-section geometrics.

Haley Street. An increase in right-of-way width from 80' to 84' is proposed for that section of Haley Street from Cedar Boulevard to Mayhews Landing Road to conform to standard street geometrics.

Sycamore Street. An increase in right-of-way width from 80' to 84' is proposed for all of Sycamore Street to conform to standard geometrics and allow for the addition of a two-way left-turn lane for safer property access.

Willow Street. It is proposed to increase the right-of-way width from 80' to 84' for that portion of Willow Street between Thornton Avenue and Enterprise Drive to conform to standard geometrics and allow for the addition of a two-way left-turn lane for safer property access.

A new geometric design is proposed for several arterials which are currently designed as 4 lane undivided (88' right of way, 68' curb to curb). The lack of provisions for left turning vehicles can present traffic safety concerns with this street geometric when there are a large number of driveways along the street frontage. Left turning vehicles can result in increased traffic congestion

along these streets by delaying other through traffic. Traffic safety can be improved for these roadways by separating left turning traffic from the through lanes by the installation of two-way left turn lanes. (Nationwide operational studies have shown a reduction in accident severity rates after the installation of two-way left turn lanes.) Two-way left turn lanes also provide increased traffic capacity over an undivided roadway, since left-turning traffic is removed from the through lanes. Two-way left turn lanes are desirable in lieu of raised medians where adjacent property access is desired or needed.

Such two-way left turn lanes have been installed on Cedar Boulevard between Birch Street and the Southern Pacific Railroad tracks. However, the installation of these turning lanes required the removal of curbside parking for disabled vehicles or space for bus stops unless bus turnouts were available.

The new geometric cross-section for a 4 lane, undivided arterial with a two-way left turn lane (Appendix T-A, Typical Street Section A3) provides for a 98' right of way and 78' curb to curb dimension, which allows for a 14' two-way left turn lane and 8' for curb parking, disabled vehicle parking, bus stops, and/or bike lanes. This new standard is proposed for several arterial streets including Cedar Boulevard between Civic Terrace Avenue and Birch Street, Central Avenue between Cherry Street and Filbert Street, and Mowry Avenue between Cherry Street and Area 4.

Level of Service

Newark has standards for controlling traffic congestion at critical intersections. These level of service standards require developers to limit traffic volumes to a maximum of Level of Service (LOS) C (see discussion below and Figure 4-5) at critical intersections or develop mitigation measures which will allow this standard to be met. Mitigations could include roadway improvements such as street widening, traffic trip reductions, such as ridesharing, or limiting the density or type of adjacent land uses.

The Level of Service (LOS) classification system evaluates streets based on the amount of traffic and street geometrics/capabilities. LOS ranks roadway operation based on the amount of traffic and the quality of traffic operations on a scale of A through F. Level A represents stable or free flow conditions and Level F represents forced or jammed conditions. Figure 4-5 provides an interpretation of levels of service. The City has had in force a policy defining the limits of acceptable traffic conditions in which LOS "C" is the limit on major arterials. This policy is maintained in this plan subject to certain qualifications.

Existing and future traffic volumes, as shown in Figure 4-6, are measured in terms of average daily traffic (ADT) and peak hour volumes. Average daily traffic is defined as the total number of cars passing over a segment of roadway, in both directions, on an average day. Peak hour traffic is defined as the total number of cars passing over a roadway segment during the busiest hour of the morning or afternoon. In Newark, the peak hours generally are 7:30-8:30 a.m. and 4:30-5:30 p.m. and typically constitute 8 to 12 percent of the average daily traffic. The future traffic volumes are also depicted in Figure 4-7, *traffic flow map*.

The relative congestion of roadways is measured by the peak hour traffic volume divided by the capacity of the roadway segment or intersection. The resulting ratio is called a volume-to-capacity (V/C) ratio. LOS are determined by the volume-to-capacity ratios.

As can be seen from Figure 4-6, the busiest roadway segment in Newark at the present time is Thornton Avenue between Cedar Boulevard and the I-880 southbound off-ramp. This segment of roadway currently carries approximately 40,000 vehicles per day.

Figure 4-5
LEVELS OF SERVICE

<u>Level of Service</u>	<u>Type of Flow</u>	<u>Delay</u>	<u>Maneuverability</u>	<u>V/C Ratio*</u>
A	Stable Flow	Very slight or no delay. If signalized, conditions are such that no approach phase is fully utilized by traffic and no vehicle waits longer than one red indication.	Turning movements are easily made, and nearly all drivers find freedom of operation.	0.00-0.60
B	Stable Flow	Slight delay. If signalized, an occasional approach phase is fully utilized.	Vehicle platoons are formed. Many drivers begin to feel somewhat restricted within groups of vehicles.	0.61-0.70
C	Stable Flow	Acceptable delay. If signalized, a few drivers arriving at the end of a queue may occasionally have to wait through one signal cycle.	Back-ups may develop behind turning vehicles. Most drivers feel somewhat restricted.	0.71-0.80
D	Approaching Unstable Flow	Tolerable delay. Delays may be substantial during short periods, but excessive back-ups do not occur.	Maneuverability is severely limited during short periods due to temporary back-ups.	0.81-0.90
E	Unstable Flow	Intolerable delay. Delay may be great. Up to several signal cycles.	There are typically long queues of vehicles waiting upstream of the intersection.	0.91-1.00
F	Forced Flow	Excessive delay.	Jammed conditions. Back-ups from other locations restrict or prevent movement. Volumes may vary widely, depending principally on the downstream back-up conditions.	Varies*

- In general, V/C ratios cannot be greater than 1.00, unless the lane capacity assumptions are too low. Also, if future demand projections are considered for analytical purposes, a ratio greater than 1.00 might be obtained, indicating that the projected demand would exceed the capacity.

References: Highway Capacity Manual, Special Report No. 209, Transportation Research Board, 1985.
 Highway Capacity Manual, Special Report No. 87,
 Highway Research Board, 1965.
 TJKM

Figure 4-6
CITY-WIDE TRAFFIC COUNT SUMMARY
 (Source: TJKM)

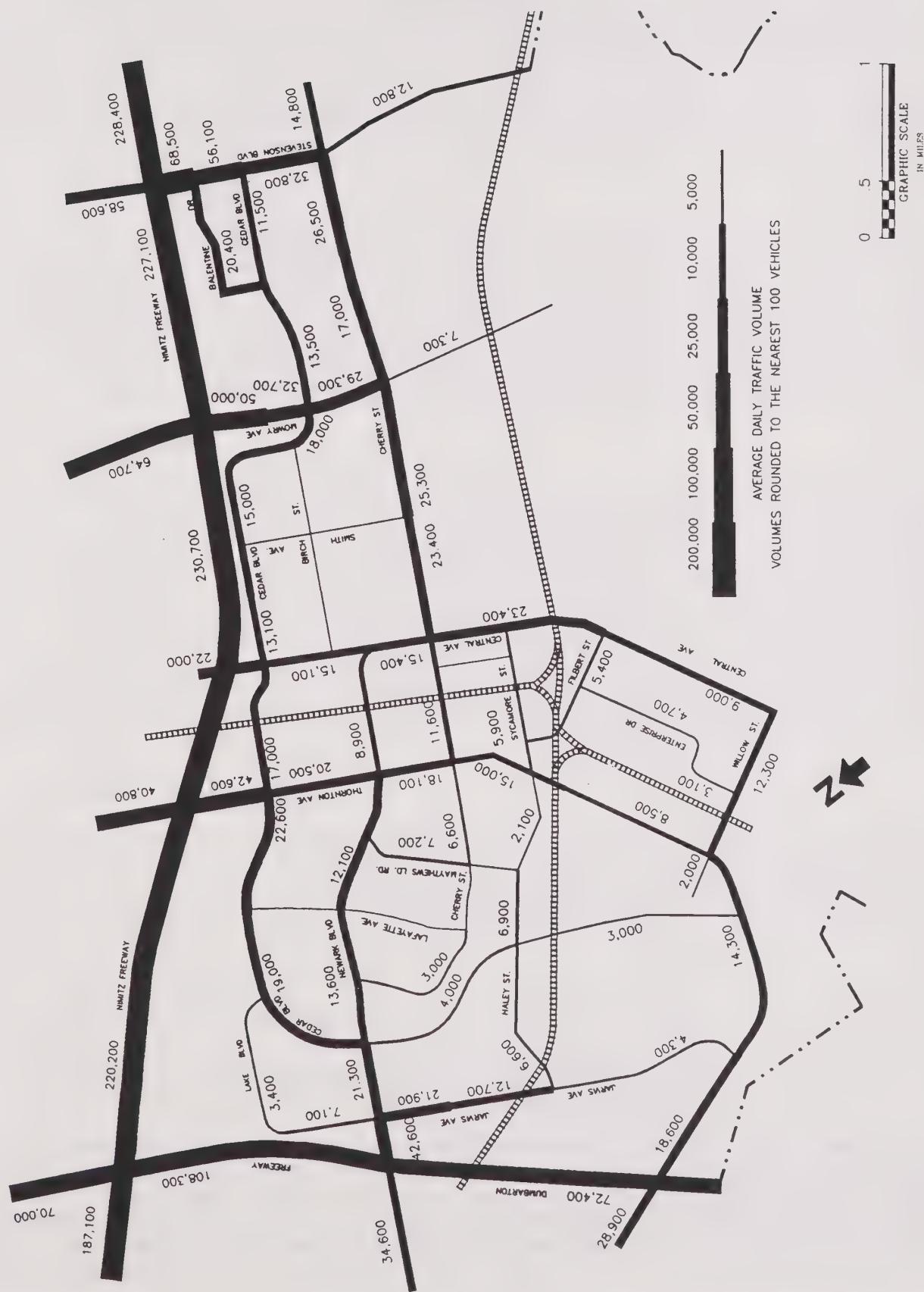
The following counts are 24-hour totals; directional counts are given where available. Traffic volumes for the year 2007 represent forecast development.

STREET	DATE	NB/WB COUNT	SB/EB COUNT	TOTAL	ADT 2007 TOTAL
BALENTINE DRIVE					
Cedar Boulevard to Stevenson Boulevard				13,700	19,500
CEDAR BOULEVARD					
Thornton Avenue to Haley Street					3,600
Haley Street to Lido Boulevard	1/88	1,400	1,700	3,100	3,400
Newark Boulevard to Musick Avenue	2/88	4,975	2,650	7,625	20,900
Musick Avenue to Thornton Avenue	1/88	9,925	9,025	18,950	30,700
Thornton Avenue to Civic Terrace Avenue	2/89	7,850	7,125	14,975	24,800
Civic Terrace Avenue to Central Avenue	2/89	6,525	6,100	12,625	25,400
Central Avenue to Moores Avenue	11/87	5,850	5,550	11,400	19,800
Moores Avenue to Birch Street	11/87	4,875	4,575	9,450	18,700
Birch Street to Mowry Avenue	11/87	5,950	5,100	11,050	20,700
Mowry Avenue to Balentine Dr	11/87	4,775	4,900	9,675	20,500
Balentine Drive to Stevenson Boulevard	1/89	4,050	4,425	8,475	19,000
CENTRAL AVENUE					
I-880 (Nimitz Frwy) to Cedar Boulevard	2/88			13,200	25,900
Cedar Boulevard to Newark Boulevard	11/87	6,050	5,100	11,150	11,800
Newark Boulevard to Cherry Street	10/87	4,425	5,025	9,450	12,600
Cherry Street to Filbert Street	11/87	6,050	5,100	11,150	16,900
Filbert Street to Willow Street	10/87	1,825	1,800	3,625	6,100
CHERRY STREET					
Newark Boulevard to Mayhews Landing Rd	1/88			1,925	3,500
Mayhews Landing Road to Thornton Ave	2/89	2,850	2,925	5,775	11,700
Thornton Avenue to Central Avenue	11/87	5,300	5,925	11,225	17,000
Central Avenue to Moores Avenue	1/89	9,675	9,350	19,025	31,800
Moores Avenue to Mowry Avenue	1/89	8,600	8,450	17,050	33,500
Mowry Avenue to Joaquin Murieta Ave	1/89	5,350	6,150	11,500	27,800
Joaquin Murieta Ave to Stevenson Blvd	1/89	5,575	6,100	11,675	22,800
ENTERPRISE DRIVE					
Filbert Street to Wells Avenue	10/87	1,325	1,375	2,700	2,700
Wells Avenue to Willow Street	10/87	725	925	1,650	1,900
FILBERT STREET/CARTER STREET					
Sycamore Street to Central Avenue	1/89			3,650	3,650
HALEY STREET/SYCAMORE STREET					
Jarvis Avenue to Cedar Boulevard	2/88			4,150	4,900
Cedar Boulevard to Mayhews Landing Rd	2/88			4,200	5,900
Mayhews Landing Road to Thornton Ave	3/88			3,975	4,400
Thornton Avenue to Central Avenue	7/87	2,000	1,075	3,075	4,100

Figure 4-6 (Continued)
CITY-WIDE TRAFFIC COUNT SUMMARY
 (Source: TJKM)

STREET	DATE	NB/WB COUNT	SB/EB COUNT	TOTAL	ADT 2007 TOTAL
JARVIS AVENUE					
Lake Boulevard to Newark Boulevard	2/89	2,600	2,375	4,975	9,000
Newark Boulevard to Lido Boulevard	2/88	6,000	5,175	11,175	29,900
Lido Boulevard to Haley Street	2/89	3,000	2,900	5,900	17,800
Haley Street to Thornton Avenue	1/88			3,700	5,700
LAKE BOULEVARD					
Jarvis Avenue to Cedar Boulevard				2,800	2,900
MAYHEWS LANDING ROAD					
Newark Boulevard to Haley Street	12/87			4,875	*3,300
MOWRY AVENUE					
I-880 (Nimitz Fwy) to NewPark Entrance	1/88	16,425	11,825	28,250	48,600
NewPark Entrance to Cedar Boulevard	1/88	9,425	9,200	18,625	39,300
Cedar Boulevard to Cherry Street	1/87	4,800	4,350	9,150	35,500
Cherry Street to Area 4					14,800
NEWARK BOULEVARD					
SR-84 (Dumbarton Fwy) to Jarvis Avenue	2/88	14,325	13,300	27,625	48,000
Jarvis Avenue to Cedar Boulevard	10/87	8,750	9,600	18,350	28,400
Cedar Boulevard to Lafayette Avenue	2/89	5,300	6,525	11,825	14,000
Lafayette Avenue to Thornton Avenue	8/87	5,750	6,025	11,775	12,600
Thornton Avenue to Central Avenue	2/88	4,100	3,900	8,000	14,400
STEVENSON BOULEVARD					
I-880 (Nimitz Fwy) to Balentine Drive	12/87	16,300	17,350	33,650	59,500
Balentine Drive to Cedar Boulevard	12/87	7,350	8,675	16,025	42,800
Cedar Boulevard to Cherry Street	12/87	4,100	3,500	7,600	27,100
Cherry Street to Area 4					19,800
THORNTON AVENUE					
I-880 (Nimitz Fwy) to Cedar Blvd	12/87	20,775	19,550	40,325	52,200
Cedar Boulevard to Newark Boulevard	12/87	5,575	11,750	17,325	26,100
Newark Boulevard to Cherry Street	2/89	8,825	7,950	16,775	17,000
Cherry Street to Sycamore Street	2/89	7,400	7,450	14,850	22,100
Sycamore Street to Willow Street	2/89	4,225	4,150	8,375	17,700
Willow Street to Jarvis Avenue	12/87	3,975	4,200	8,175	18,700
Jarvis Avenue to SR-84 (Dumbarton Fwy)	3/88			10,375	21,200
WILLOW STREET					
Central Avenue to Thornton Avenue	12/87			4,400	7,900
Thornton Avenue to Cedar Boulevard	10/87			975	2,000
California Department of Transportation Traffic Counts:					
I-880 (NIMITZ FREEWAY)					
SR-84 (Dumbarton Freeway) to Thornton Avenue				152,000	211,500
Thornton Avenue to Mowry Avenue				151,000	223,100
Mowry Avenue to Stevenson Boulevard				138,000	221,300
SR-84 (DUMBARTON FREEWAY)					
I-880 (Nimitz Freeway) to Newark Blvd				44,500	103,900
Newark Boulevard to Toll Plaza				39,500	74,700

Figure 4-7
TRAFFIC FLOW MAP 2007
(Source: TJKM)



The flow of traffic on a given roadway segment is almost always defined by the volume and capacity of the nearest intersection. In the case of Thornton Avenue, the major cause of congestion along the roadway is the bottleneck which is created at the intersection of Thornton Avenue and I-880. Because of the existing two-lane overcrossing, demand exceeds capacity, causing segments of Thornton Avenue further to the west and east to be congested. Service levels at Thornton Avenue and I-880 are at LOS D during the morning peak hour and LOS F during the afternoon peak hour.

In the base year (1986) all other intersections within Newark, except the intersection of Newark Boulevard and Jarvis Avenue, were either at or better than the City's adopted standard of LOS C.

Traffic Speeds and Parking

The City also regulates traffic speeds and movements, and establishes parking requirements. Traffic speeds are established according to roadway type, capacity, condition and accident rates. Moving violations are enforced by the Police Department. Parking requirements and parking dimensions are included in the City's Zoning Ordinance and enforced by the Planning Division when plans are reviewed for new buildings or additions. Single-family residential uses generally require two on-site covered parking spaces per unit. Parking requirements for industrial, commercial and office uses range from one space per 150 to 1,000 square feet, depending on the particular use.

Public Transportation

Newark is currently served by four Alameda County (AC) Transit routes on a regular basis; however, two of the lines (16 and 27) have a long frequency of one hour during the non-peak periods. Lines 20 and 29 provide weekday and weekend services to the NewPark Mall and the *Fremont and Union City Bay Area Rapid Transit (BART) stations* which are approximately four to five miles from Newark. Line 16 provides service only during weekdays to the NewPark Mall and Fremont BART station, and Line 27 provides weekday and weekend services to the Fremont BART station. The only transit service across the Dumbarton Bridge is provided by AC Transit buses (Line DB/DBI) running between the Union City BART station and Palo Alto with one stop at the *Caltrans Park-n-Ride lot* north of the Newark Boulevard/I-880 interchange. Subsidized taxi and wheelchair-accessible van service is provided for the elderly and disabled by *Tri-City Paratransit*.

Other Modes of Transportation/Issues

Congestion Management. The approval of Propositions 111 and 108 by California voters included a requirement for participation by all urban cities and counties in congestion management. This transportation funding package included a requirement to prepare, implement and annually update a *Congestion Management Program (CMP)*. These CMP's must include:

- o Roadway Level of Service standards.
- o Transit service standards.
- o A trip reduction and travel demand element, including improvements to balance jobs and housing.
- o A program to analyze the transportation impacts of local land use decisions.
- o A seven-year capital improvement program to maintain or improve the level of service.

The implementation and maintenance of the CMP is to be accomplished by an agency designed by the County Board of Supervisors and a majority of the cities representing a majority of the population. In Alameda County, the existing Transportation Planning Commission is being recommended as the Congestion Management Agency for the county. The Congestion Management Agency (CMA) will be responsible for insuring that required goals and programs included in the CMP are adhered to by the local agencies.

As indicated, the CMP will establish level of Service standards for principal arterials and state highways included on the Congestion Management Plan (CMP). Traffic conditions on these facilities must be monitored on an annual basis and deficiencies reported to the CMA. Failure of a local agency to maintain Level of Service standards for streets included in the CMP can result in the loss of new gas tax funds generated by these Propositions.

Bike Lanes. The City has a city-wide Bike Route Plan (Figure 4-8) which indicates that bike lanes have been planned along most of the major roadways within the City; however, most of the routes have not yet been actually implemented due to the lack of demand. The City plans to install these bike lanes as new developments or roadway improvements occur along the designated routes. The General Plan continues this bike route policy and plan and promotes the completion of an integrated bike network within the plan period.

Rail Services. The north-south and east-west Southern Pacific rail lines provide service to industries within the City and also carry Amtrak passenger traffic. Passenger service is on the north-south line, but there is not a passenger station in the City. The existing east-west rail line that connects to the north-south line in the Historic Newark area is linked to the San Francisco Peninsula by the Dumbarton rail bridge. While it is not currently used for passenger service, studies are continuing to determine the feasibility of establishing a commuter service on this line.

One consequence of the evolution of the historic rail service and system, is that there are more than a dozen at-grade railroad crossings in the City. These crossings cause interruption and delay to vehicular traffic. Although there has not been a history of frequent accidents at the crossings, such crossings create the potential for serious accidents. The crossings can cause critical delay to emergency vehicles and Southern Pacific is historically slow to maintain pavement at the crossings, which can result in a deteriorated roadway sections. Further, signs and signals associated with the crossing can create undesirable environments and may disturb adjoining residential uses.

Air Services. The nearest general aviation airport is in the City of Hayward. International airports are located in Oakland, San Francisco and San Jose. These facilities provide air connections to points within the State, the nation and throughout the world. This plan does not envision the need for any local air service connections (e.g., an additional general aviation facility or heliport) within the City and, due to potential safety and noise impacts does not support any such facilities in the general area of the City.

Parking. Most parking issues are related to specific problems which generally are addressed through the normal project review and approval process. In general, on-street parking can often generate interference to traffic flow and reduce roadway capacity, but can also supplement on-site, off-street parking demands. It is the intent of this plan that all new projects provide on-site, off-street parking sufficient to serve the anticipated demands of the specific project.

4.3 FUTURE CONDITIONS

In the future, traffic volumes will increase substantially over existing conditions. Figure 4-6 compares average daily traffic volumes in 1987-1988 with those projected for 2007. Congestion at major intersections also will increase, although not to the point of impairing the free flow of traffic on arterials away from the freeways. Figure 4-9 presents a comparison of volume-to-capacity ratios and resulting levels of service for year 2007 conditions. Major increases in LOS are projected along nearly all major arterial streets.

Traffic volumes along I-880 and State Route 84 also will increase significantly from a combination of development within Newark, Fremont, Union City, and an increase in through traffic from other areas. A major shift in land development in Southern Alameda County from mostly residential to a

Figure 4-8
BIKE ROUTE PLAN

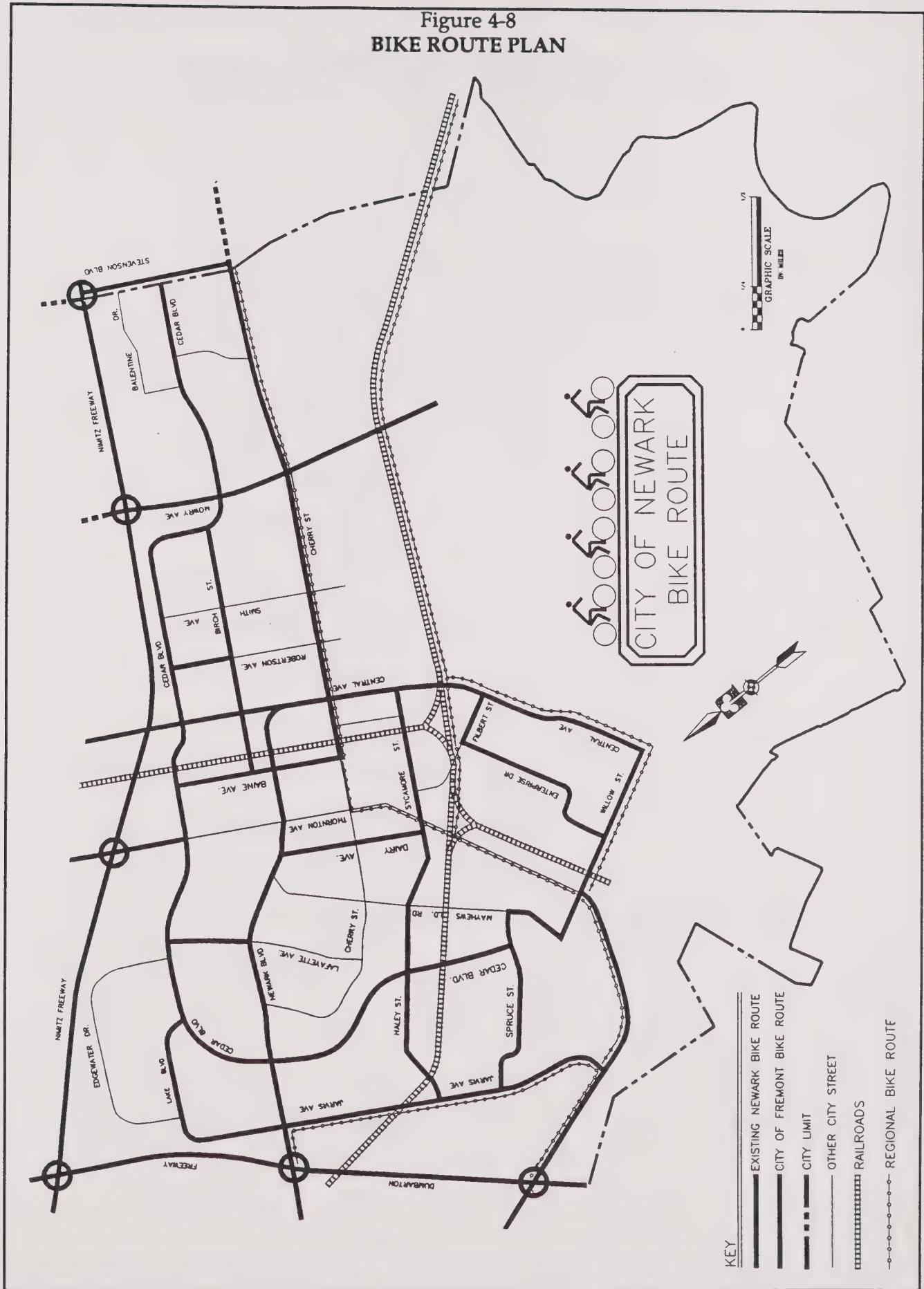


Figure 4-9
INTERSECTION CAPACITY ANALYSIS FOR YEAR 2007
 (Source: TJKM)

Intersection	V/C	A.M.		P.M.	
		LOS	V/C	LOS	V/C
1. Newark Boulevard/Jarvis Avenue*	0.82	D	1.48	F	
2. Cedar Boulevard/Thornton Avenue*	1.06	F	1.05	F	
3. Willow Street/Thornton Avenue*	0.57	A	0.89	D	
4. Cherry Street/Thornton Avenue*	0.67	B	0.81	D	
5. Cedar Boulevard/Central Avenue*	0.88	D	1.08	F	
6. Cherry Street/Central Avenue*	0.82	D	0.93	E	
7. Cherry Street/Mowry Avenue*	0.92	E	0.95	E	
8. Cedar Boulevard/Mowry Avenue*	0.88	D	1.00	E	
9. Mall Entrance/Mowry Avenue*	0.76	C	0.89	D	
10. Cherry Street/Stevenson Boulevard	2.42	F	1.58	F	
11. Cedar Boulevard/Stevenson Boulevard	0.92	E	0.72	C	
12. Balentine Drive/Stevenson Boulevard	1.00	E	1.30	F	

*Includes reasonable intersection improvements consistent with proposed street width/geometrics.

V/C = volume-to-capacity ratio

LOS = Level of Service

mix of residential and commercial/industrial development will result in marked increases in commute hour traffic from the north into Newark in the morning and from the south through Newark in the afternoon.

Severe traffic congestion is projected for I-880. Long term Caltrans plans to widen I-880 to ten lanes will improve LOS. However, some overflow traffic is expected to seek alternative routes through the area including, including City of Newark city streets. This problem will be exacerbated if Route 61 is not constructed.

Some of the north-south peak hour demand for travel along the I-880 corridor will seek alternative routes such as Newark Boulevard, Cedar Boulevard, and Cherry Street. The improvements required to accommodate this additional demand and maintain a LOS C would include extensive widening and would create a severe impact on adjacent businesses and residents of Newark. Anticipated improvements have therefore been limited to reasonable intersection modifications consistent with proposed street geometrics.

Even with the planned widening of I-880 to eight lanes by the Alameda County Transportation Commission under Measure B (anticipated to begin in construction in 1994), there will still be a severe shortage of north-south capacity in this area. This shortage of peak hour freeway capacity will continue to exist until construction of the parallel Shoreline Freeway beyond the current planning period.

This lack of freeway capacity is due in part to the deletion of the planned extension of I-680 north of Mission Pass in Fremont, southern Alameda County between southern Fremont and central Hayward is served by a single freeway. Other areas of the Bay Area are served by a minimum of two parallel freeways: I-280 and US 101 along the Peninsula from San Jose to San Francisco, I-80 and I-580 from Oakland to Hayward, and I-80 and I-680 south of Fremont to San Jose.

It is anticipated that congestion on I-880 will result in some through traffic being diverted to local arterials in Newark. This assumption has been proved through computer analysis of traffic flows in Southern Alameda County. The computer model normally assigns traffic flows to streets and freeways on the basis of trip times, i.e., selecting a route between an origin and destination which will result in the shortest driving time rather than necessarily the shortest route. Because of this criteria, the computer will assign some through traffic to local streets when I-880 is congested, just as drivers select alternative routes during peak hours.

If the computer is programmed to assume that I-880 has unlimited capacity (10 or more lanes in each direction) with no congestion during any portion of the day, the resulting computer output reveals a substantial decrease in traffic on local streets and a corresponding increase in traffic on the freeway system. (In evaluating alternatives for this plan, one alternative, The Conservation Alternative, was used for this simulation but the diversion of through traffic to local streets would occur under all land use alternatives that might be reasonably considered because of anticipated development in the Fremont, Newark and Union City areas together with an increase in through traffic from other areas.)

The only realistic solution to the diversion of through traffic to local streets is the ultimate construction of the Shoreline Freeway and to pursue regional solutions to increased traffic congestion including adequate and convenient mass transit and TSM (Traffic System Management) alternatives, e.g., incentives to promote ride sharing, flex-time, etc.

Figure 4-9 shows that, in general, afternoon peak hour LOS figures for intersections adjacent to freeway interchanges or at the borders with Fremont, such as Newark Boulevard at Jarvis Avenue, Cedar Boulevard at Thornton Avenue and intersections along Stevenson Boulevard will perform poorly. (Note: based on General Plan update background studies, these conditions will exist

regardless of the land use alternative.) At least part of this congestion relates back to the lack of sufficient north/south freeway capacity.

These projected traffic volumes were also compared to projections being made by the City of Fremont as part of their 1991 General Plan update for arterial streets common to the two cities. These volumes are shown in Figure 4-10. Generally, volumes projected by the two separate computer models agree reasonably well at the City boundaries. The City of Newark computer model is projecting approximately 20% more traffic on Cherry Street north of Stevenson Boulevard than the City of Fremont model, and approximately 50% more traffic on Thornton Avenue south of SR-84. While the two computer models agree within 6% of each other for Stevenson Boulevard between I-880 and Balentine Drive, the Newark model is projecting approximately 25% more traffic for that portion of Stevenson Boulevard between Balentine Drive and Cherry Street.

These differences are due to a number of factors incorporated into the two computer models, including calibration efforts for the two models, land use assumptions, and intersection capacity penalties for left turns (included in the Newark model but not the Fremont model). Of these factors, calibration may be the most important. After existing land use data is input into the computer model, the computer is programmed to project existing traffic volumes based on existing land use data and historical traffic generation data. After this run, the resulting traffic volumes are compared to actual current traffic volumes and the computer model manually adjusted or calibrated as necessary to accurately reproduce current traffic volumes. If existing traffic volumes are not available to complete this calibration procedure, projected traffic volumes will also be in error.

The Fremont model was most likely accurately calibrated for Fremont streets but may not have been accurately calibrated for Newark streets. The Fremont model was also run prior to final land use alternative decisions for Newark which influence traffic generation factors. Together, these factors plus the left turn penalties included in the Newark model results in the 20% to 50% variation in projections between the two models for Cherry Street and Thornton Avenue.

While projections on some streets away from the common boundary with Fremont differ between the two models, projected traffic volumes at the junctures of Newark Boulevard/SR-84, Thornton Avenue/I-880, Central Avenue/I-880, and Mowry Avenue/I-880 are all within 15% of each other.

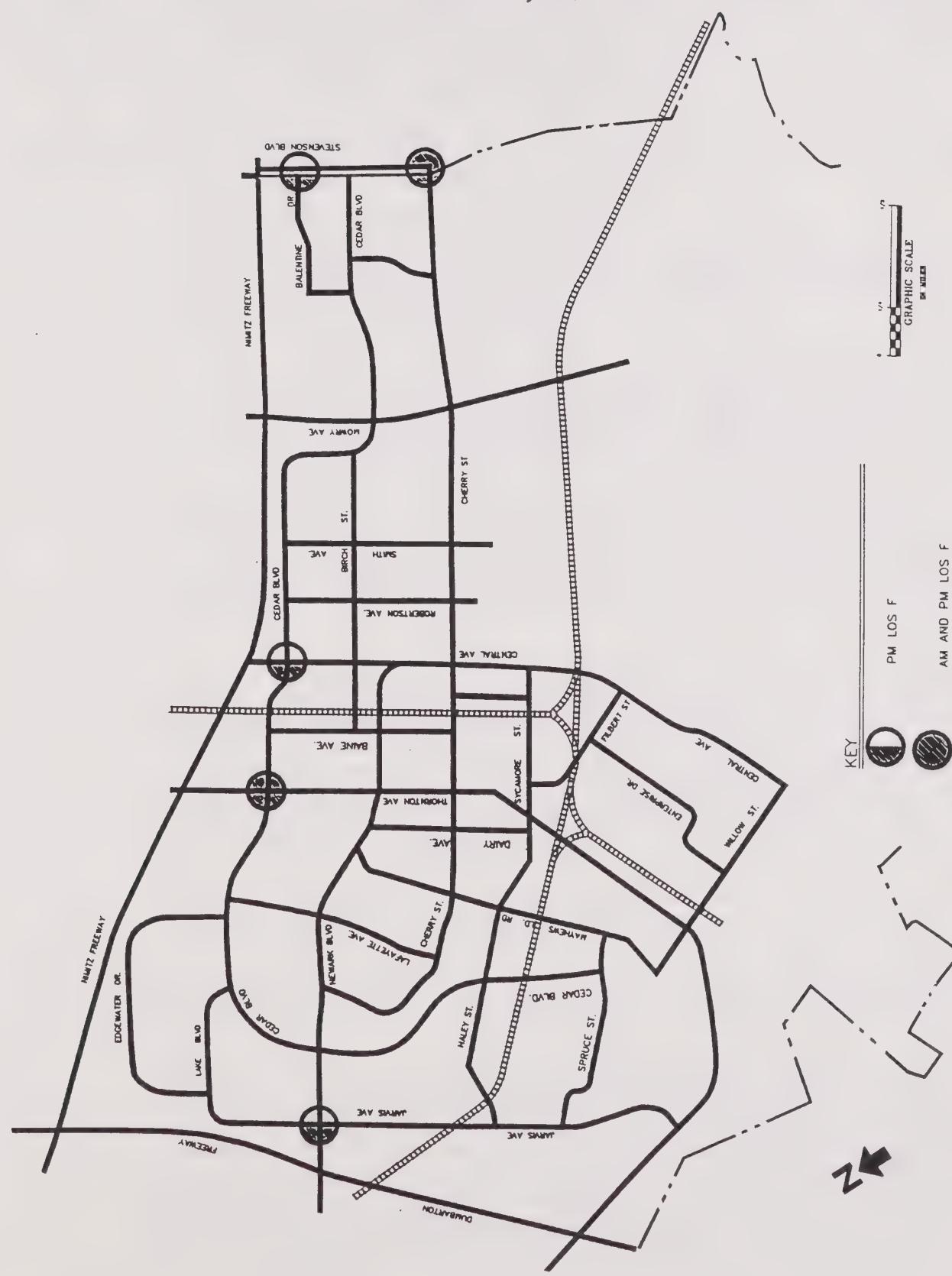
Even with reasonable intersection improvements (but without Route 61), two intersections will operate at Level of Service F during both morning and evening peak hour periods and three other intersections will operate at LOS F during the afternoon peak hour period. Those intersections projected to operate at LOS F during both peak hour periods will be Cedar Boulevard at Thornton Avenue and Cherry Street at Stevenson Boulevard. Afternoon peak hour LOS F will occur at the intersections of Newark Boulevard at Jarvis Avenue, Cedar Boulevard at Central Avenue, and Balentine Drive at Stevenson Boulevard. These intersections are shown on Figure 4-11.

[Note: Most of these intersections will experience the same level of service problems under any of the alternatives considered during the general plan update traffic studies. The intersection of Cherry Street at Stevenson Boulevard is projected to operate at LOS F during both the morning and afternoon peak hour periods under all the alternatives including the Conservation Alternative, which projected relatively limited new development. The volume is projected to theoretically exceed the capacity by more than twice during the A.M. and P.M. peak period for the Conservation Alternative and during the A.M. peak period for the Fourth Alternative, i.e., the basis for this General Plan. The capacity of an intersection is physically limited the geometrics of the intersection and accommodating a volume twice the capacity is not possible. Such demand results in extending the length of the peak period in order to accommodate the traffic volume. Likewise, the intersections of Newark Boulevard at Jarvis Avenue, Cedar Boulevard at Central Avenue, and Balentine Drive at Stevenson Boulevard will operate at LOS F during afternoon peak hour periods under all four general plan study alternatives. Only the intersection of Thornton Avenue at Cedar

Figure 4-10
TRAFFIC VOLUME COMPARISON
CITY OF NEWARK AND CITY OF FREMONT
(Source: TJKM)

STREET	LINK	PROJECTED CITY OF NEWARK GENERAL PLAN	PROJECTED CITY OF FREMONT GENERAL PLAN
Central Ave.	At I-880	22,000	24,100
Cherry St.	Joaquin Murieta to Stevenson Blvd. South of Stevenson Blvd. (Boyce Rd.)	26,500 14,800	21,500 21,700
Mowry Ave.	East of I-880 (Fremont) I-880 to NewPark Entrance	64,700 52,500	58,900 44,300
Newark Blvd.	North of SR-84 (Ardenwood Blvd.) SR-84 to Jarvis Ave.	34,600 42,600	33,600 48,300
Stevenson Blvd.	East of I-880 (Fremont) I-880 to Balentine Dr. Balentine Dr. to Cedar Blvd. Cedar Blvd. to Cherry St.	58,600 68,500 56,100 32,800	54,300 64,300 41,200 24,900
Thornton Ave.	East of I-880 (Fremont) I-880 to Cedar Blvd. Jarvis Ave. to SR-84	40,800 42,600 18,600	39,300 37,900 9,700
I-880	North of SR-84 SR-84 to Thornton Ave. Thornton Ave. to Mowry Ave. Mowry Ave. to Stevenson Blvd. South of Stevenson Blvd.	187,100 220,200 230,700 227,100 228,400	178,300 178,300 194,600 194,300 188,600
SR-84	East of I-880 (Decoto Road) I-880 to Newark Blvd. Newark Blvd. to Thornton Ave.	70,000 108,300 72,400	61,000 99,100 82,300

Figure 4-11
 INTERSECTIONS PROJECTED AT LOS F
 (YEAR 2000 - MITIGATED)
 (Source: TJKM)



Boulevard is projected to operate at improved levels under other alternatives. Under the Economic Development alternative, the intersection improves slightly during the afternoon peak hour period but still is projected to operate at LOS F during the morning peak hour period. The intersection is anticipated to improve to LOS D and E during the morning and afternoon peak hour periods respectively for the Conservation and Housing alternatives.]

4.4 TRANSPORTATION GOALS, POLICIES AND PROGRAMS

GOAL 1. *Provide for a quality environment with smooth, convenient and safe vehicular travel throughout Newark.*

Policy a. Complete the City's arterial street system.

Program 1. Widen and improve the City's arterials to accommodate future traffic. It is intended that this program should be accomplished only where possible without loss to existing housing resources.

Program 2. Develop a new west side arterial street running generally along the Thornton Avenue corridor and connecting to Central Avenue within the plan period, with the intent of ultimately completing the street to Stevenson Boulevard. This facility will serve proposed new development west of Cherry Street and will direct the movement of industrial truck traffic around residential neighborhoods.

Program 3. Develop and, where possible, implement standards for arterials that include adequate space for landscaping, and for integration of such features as signage and lighting. The intent is to establish these streets as landscaped corridors to enhance the experience of the road user and protect the qualities of adjoining properties.

Program 4. Establish a Truck Route Plan and enforcement regulations to ensure that truck traffic is directed away from residential and other sensitive use areas and, as practical, arterial intersections with potential LOS problems. Truck traffic should be directed to a route or route system along the western edge of the City, that will serve existing and proposed industrial development. Further, larger commercial vehicles serving major shopping and other commercial facilities should access these facilities from nearby freeway interchanges and should be prohibited from using the internal arterial system for through trips.

Policy b. Maintain and where necessary enhance the system of collector streets to ensure complete linking of arterials with the local street system.

Policy c. Strive for LOS "C" or better at all major intersections within Newark, recognizing that in some cases Level of Service "D" may be acceptable with appropriate mitigation measures.

Program 5. To the extent that can reasonably be accomplished in conformity with the other objectives of this plan, require that LOS "C" be maintained on the existing street system. This program is established with the understanding that in some instances the City may determine that a condition approaching LOS "D" will be acceptable if appropriate mitigations measures are identified and/or other objectives of this plan can be achieved (e.g., development of needed community serving recreational facilities in conjunction with new residential development west of the railroad tracks between Mowry Avenue and Stevenson Boulevard , i.e., Area 4).

Program 6. Regularly evaluate the need for street improvements required to maintain LOS "C" or better.

Program 7. Monitor Levels of Service at intersections approaching LOS "D."

Policy d. Assure that adequate right-of-way is reserved for future roadway widening projects.

Program 8. Require that property owners along major arterials who request discretionary approval on projects dedicate a public use easement or road right-of-way to allow road widening in conformity with adopted City policy and street standards.

Policy e. Improve the street system as necessary to facilitate fast emergency vehicle response.

Program 9. Install railroad grade separations where necessary to facilitate emergency vehicle response.

Policy f. Coordinate traffic signals on major streets.

Program 10. Install interconnected signal systems on major arterials where practical and beneficial, including Stevenson Boulevard, Cherry Street, Thornton Avenue, Cedar Boulevard, Mowry Avenue, and Newark Boulevard.

Policy g. Establish and maintain street standards that meet current best traffic engineering practice.

Program 11. Revise City street design standards, eliminating four-lane undivided thoroughfares, to ensure safety.

Program 12. Encourage construction of low maintenance (rubberized) at-grade railroad crossing improvements.

Policy h. Establish a capital improvements program that provides for needed roadway projects.

Policy i. Assure adequate off-street parking is provided for all new and expanded developments in order to maximize the efficiency of the City Street system.

Policy j. Work with merchants in the Historic Newark area to expand off-street parking using public or private funding.

Policy k. Require new development to implement Transportation Systems Management (TSM) programs, and/or to pay for traffic improvements through traffic impact fees or assessment district financing.

Program 13. Adopt a TSM ordinance for application to new industrial and commercial developments as required by the Congestion Management Plan.

Program 14. Adopt a traffic mitigation fee, which meets the requirement of new state legislation (AB 1600), for application to new industrial, commercial and residential development.

Program 15. Consider approving development which results in LOS "D" conditions only where funds are collected through traffic impact fees to make improvements

which will restore LOS "C" conditions, or at least ensure reasonable mitigation of all traffic impacts of the development.

GOAL 2.

Promote the development and use of alternative modes of transportation.

Policy a.

Work with other agencies and private industry to provide an improved public transportation system serving Newark and its residents.

Program 1. Provide express bus service from key locations in Newark to the Fremont or Union City BART station.

Program 2. Increase weekend bus service to major shopping centers.

Program 3. Extend existing local bus routes into NewPark Mall.

Program 4. Support the Dumbarton Bridge express bus to the Peninsula.

Policy b.

Utilize existing railroad rights-of-way for new transit routes.

Program 5. Support Alameda County's efforts to acquire the railroad right-of-way between Niles Canyon and Newark, and between Newark and San Mateo County, for an east/west transit corridor. Consider options for a commuter station in Newark only if it is at a location that is well served by roadway access, where adequate parking can be provided without adversely affecting existing and/or planned land uses, and that can be developed for the station without jeopardizing the other objectives of this plan.

Policy c.

Support car and van pools.

Program 6. Encourage Caltrans to create additional park-and-ride lots in and around Newark.

Policy d.

Assure safe and convenient pedestrian access to and through new private and public developments.

Program 7. Work with private developers through the development review process to assure adequate pedestrian access.

Policy e.

Complete construction of the City-wide Bike Route Plan.

Program 8. Establish a timetable for constructing the Bike Route system.

GOAL 3.

Support regional transportation Planning for Southern Alameda County.

Policy a.

Work with other agencies to evaluate and plan the timing and location for a Route 61 freeway or expressway through the western part of Newark.

Policy b.

Utilize existing north/south railroad rights-of-way to create additional north/south routes to supplement I-880

Policy c.

Support Measure B freeway capacity improvements.

Program 1. Widen I-880 to eight/ten lanes through Newark.

Program 2. Expand Nimitz Freeway interchange capacity at Mowry Avenue, Thornton Avenue, and Stevenson Boulevard.

Program 3. Widen the Central Avenue overpass of the Nimitz Freeway to four lanes.

Policy d. Work with the State and the City of Fremont to maintain LOS "C" at all intersections on the border of Newark, particularly Newark Boulevard/Dumbarton Freeway, Thornton Avenue/Dumbarton Freeway, Stevenson Boulevard/Interstate 880, Mowry Avenue/Interstate 880 and Thornton Avenue/Interstate 880, to accommodate build-out of lands in Fremont and Newark in the vicinity of the intersections.

4.5 DESCRIPTION OF MAJOR TRANSPORTATION PROPOSALS

Proposed Roadway Improvements

In order to accommodate year 2007 growth, a wide range of street, highway and intersection improvements must be constructed in a timely fashion. Lists of the roadway and intersection improvements proposed to accommodate the projected traffic growth are shown in Figures 4-12 and 4-13. Many existing roadway improvements were installed prior to development in Newark resulting in the uncongested levels of service in Newark today. Improvements must continue to be constructed to keep pace with residential and commercial/industrial growth or congestion will result. Therefore, the timing of improvements must be coordinated with anticipated occupancies of large residential and commercial projects in order for acceptable LOS to be maintained. The major roadway improvements of this plan are described below:

Route 61. Route 61 is the state proposed west side freeway extension. Its precise location and design, as well as timing of construction are uncertain, but is not anticipated to occur during the plan period. The City supports improvement of this facility and will take all actions possible to work with the State to guide location and design. In particular, the following factors should be taken into account in route planning, e.g., minimum impact on developed areas of Newark, no adverse impact on established residential areas, minimum disruption of wetlands, and protection of the open views in the western area of the City. In addition, limited access to Route 61 from Newark streets should be considered. The only access should be at State Route 84, and Thornton Avenue near Jarvis Avenue, and at Stevenson Boulevard if development occurs west of the railroad tracks.

New West Side Arterial. In light of the uncertainties associated with Route 61 and the need to accommodate planned growth, the plan provides for both a new "in Town" west side, north-south arterial route as well as the Route 61 freeway. The "in Town" route is shown on the general plan diagram basically running along Thornton Avenue and connecting to Central Avenue with an arrow pointing south from Central. It is not anticipated that development of the route will be completed to Central Avenue within the plan period. Further, the west side arterial must be in place prior to any development west of the railroad tracks between Mowry Avenue and Stevenson Boulevard. *Note: This statement is qualified by the policy that such west side residential development could be approved without completion of the west side arterial if needed community recreational facilities (i.e., a golf course and swim center) are provided and traffic mitigation measures are implemented as necessary to comply with the LOS standards of this plan.*

Stevenson Boulevard. The centerline of Stevenson Boulevard is the common city limit line for Newark and Fremont. Thus, the two cities share responsibility for this street. The location and geometric design of Stevenson Boulevard west of Cherry Street will impact the development of Newark Planning Areas 3 and 4. In particular, the extension of Stevenson Boulevard with a grade separation of the railroad tracks is required as a condition of development of Area 4.

Figure 4-12
ROADWAY IMPROVEMENTS
 (Source: TJKM)

Roadway Improvements		Cost	Source of Funds	Potential Cost to City
1.	Widen Jarvis Avenue from Newark Boulevard to Thornton Avenue	\$7.6 Million	Adjacent Developer	0
2.	Widen Thornton Avenue from the Southern Pacific Railroad Tracks to Jarvis Avenue	\$10.7 Million	City	\$1.2 Million
3.	Widen Stevenson Blvd. from the Nimitz Freeway to Cherry Street	Done	0	0
4.	Complete the Cedar Blvd. extension from Haley Street to Thornton Avenue (including a railroad underpass)	\$2.5 Million	City	\$2.5 Million
5.	Widen and improve Stevenson Blvd. from Cherry Street to the Southern Pacific Railroad tracks (including a railroad overpass)	\$7.8 Million	Adjacent Developer	0
6.	Widen and improve Mowry Avenue from Cherry Street to the Southern Pacific Railroad tracks (including a railroad overpass)	\$1.6 Million	Adjacent Developer	0
7.	Widen Cherry Street from Mowry Avenue to Stevenson Blvd.	Done	Adjacent Developer	0
8.	Widen Mowry Avenue from the Nimitz Freeway to Cedar Blvd.	Done	0	0
9.	Expand Nimitz Freeway interchange capacity at Mowry Avenue, Thornton Avenue and Stevenson Blvd.	\$61 Million	Measure B Caltrans	0
10.	Widen the Central Avenue overpass of the Nimitz Freeway	\$5 Million	Measure B	0
11.	Widen Newark Blvd. from the Dumbarton Freeway to Jarvis Ave.	\$0.7 Million	Adjacent Developer	0
12.	Widen Thornton Avenue from the Dumbarton Freeway to Jarvis Ave.	\$3.5 Million	Adjacent Developer	0
13.	Construct the Route 61 bypass or a local access Through Route	\$62 Million	State	0
14.	Misc. intersection improvements	\$2.7 Mil	Devel, City	0

Figure 4-13
INTERSECTION IMPROVEMENTS
 (Source: TJKM)

NO	INTERSECTION	IMPROVEMENTS	PLAN PROPOSAL	REMARKS
7	Cherry/Mowry	Restripe WB Mowry for shared thru and dual left-turn (E-W split Q) Construct NB free right Widen Mowry for EB dual left and 2 thru Widen Mowry for WB dual left and 2 thru Total intersection cost:	300' long \$0 200' long 300' long & 500' 300' long & 500' \$1,590,00	Minimal cost
8	Mowry/Cedar	Level 1: Widen Mowry for EB dual left Total intersection cost:	425' long \$175,000 \$175,000	
9	Mowry/NewPark	Level 1: Restrip SB for exclusive Lt Lane Install NB Rt arrow Restripe EB for shared 3 thru w/Rt lane Widen NB for exclusive Lt lane, restripe for dual Rt shared w/thru Total intersection cost	Yes Yes \$15,000 Yes Yes \$0 \$15,000	Minimal cost Minimal cost No City cost Mall cost
10	Stevenson/Cherry			Inadequate right-of-way for mitigations
11	Stevenson/Cedar			No feasible mitigations
12	Stevenson/Albrae/Balentine			No feasible mitigations
TOTAL COSTS			\$2.656 Million	

The City of Fremont long range plans for Stevenson Boulevard propose that it be constructed as a six-lane divided arterial from I-880 to Cedar Boulevard and as a four-lane divided arterial west of Cedar Boulevard. The plans also include a diagrammatic connection with the Shoreline Freeway (i.e., as a parkway) just south of the city limit and east of the railroad tracks. Route 61 is then shown continuing northerly from this intersection, crossing the railroad tracks on a skew north of the city limit line in Newark and extending to the north through Area 4. Route 61 is also proposed to continue south in Fremont to a connection with extensions of Durham and Cushing Roads and an interchange with I-880.

While the policies of this Newark General Plan encourage ultimate construction of the Shoreline Freeway, the Plan does not assume construction within the planning period. The Plan further assumes that Route 61 will not be constructed in Area 4 (as projected in the City of Fremont plans).

As a result of the foregoing, and due to the alignment of Stevenson Boulevard in Fremont, this Newark Plan proposes that both the Stevenson Boulevard railroad grade separation and the connection of the new roadway extension with the existing portion of Stevenson Boulevard be accomplished entirely within the City of Newark. Further, the railroad overcrossing must be designed so that it does not result in undevelopable property in Newark to the south of the grade separation adjacent to the existing alignment of Stevenson Boulevard.

This Plan proposes to avoid these potential problems by locating the railroad grade crossing just north of existing Stevenson Boulevard with the south edge of the right-of-way for the overcrossing aligned with the city limit line for Stevenson Boulevard. This alignment requires that the centerline of Stevenson Boulevard be adjusted northerly, starting approximately 1,000 feet east of the railroad tracks to allow for both a 90 degree crossing structure and to place the entire overcrossing structure and right-of-way within the City of Newark. A connection with an extension of Stevenson Boulevard southerly through Fremont can be made at a point easterly of the approach embankments to the overcrossing. The approximate alignment is depicted on the general plan diagram. This alignment facilitates development in Area 4 without compromising the development of Area 3. Further study of roadway alignments in this area should be deferred to be completed with detailed project planning for these study areas.

Cedar Boulevard Extension. Cedar Boulevard is planned for extension from Haley Street across the Southern Pacific railroad tracks on the northwest side of the City to provide both emergency access across the railroad tracks and to relieve traffic from adjoining local and collector streets. The projected average daily traffic (ADT) volumes on Cedar Boulevard with an extension as described above would range from 4,000 to 6,000 vehicles per day. Initial extension of Cedar Boulevard westerly from Haley Street shall be accomplished with a two-lane divided street and with an at-grade crossing, preferably rubberized, of the Southern Pacific railroad tracks. The following conditions and/or qualifications will also apply:

- o Mayhews Landing Road should be left open, if possible, and Cedar Boulevard extended to Willow Street to eliminate increased traffic on Bettencourt across the school frontage.
- o Sound walls, if warranted, should be provided along the southerly side of Cedar Boulevard from Haley Street to the Southern Pacific railroad tracks.
- o Safety of pedestrian traffic across Cedar Boulevard should be addressed as part of street improvements.
- o If a grade separation is ultimately needed at Cedar Boulevard and the railroad tracks it should only be constructed only as an underpass.

Public safety within the area westerly of the railroad tracks can be significantly improved with a grade separation at Cedar Boulevard. Newark is bisected by railroad main lines in both the north-south and east-west directions with a fire station located in each of the three residential

quadrants. A major fire or emergency in any quadrant, however, requires a multi-company response. A long train, switching activity, or train delay blocking an at-grade crossing could thus result in a loss of valuable time in the event of a major emergency. Police and/or ambulance response times could also be impacted by train traffic.

This problem was recognized in the previous City General Plan by the requirement for providing at least one railroad grade separation over each of the four railroad mainline "spokes." A grade separation is already in place for Newark Boulevard which insures access between the northerly and southerly portions of the City. Guaranteed emergency access can be provided to the westerly quadrant of the City by a grade separation at Cedar Boulevard; adjacent subdivisions were required to dedicate additional right-of-way for Cedar Boulevard to allow for the option to construct this street at-grade or as a grade separated crossing. As indicated, extending Cedar Boulevard westerly of Haley Street as an at-grade crossing will most likely require that Mayhews Landing Road be closed as a through street. Both the PUC and Southern Pacific Transportation Company discourage new crossings, especially when it results in two closely situated crossings.

New arterial overcrossings at railroad tracks. In order to reduce the pressure for ultimately installing an underpass at Cedar Boulevard and the railroad tracks, the plan also provides for a grade separation crossing, i.e., an overpass, at Central Avenue where it intersects the Southern Pacific Railroad tracks. In addition, the plan provides for an overcrossing at Stevenson Boulevard. The Stevenson Avenue overcrossing will serve Area 4 residential development.

Proposed Traffic Management Improvements

In order to make roadway improvements effective, additional traffic management programs should be implemented. Traffic signals, for example, are a critical mechanism to ensure the safest and most efficient flow of traffic. The following should be pursued in conjunction with the other programs identified in this chapter:

Traffic Counts. Traffic counts should be used to ensure that roadway improvements are effective and traffic is flowing according to projections. The City should continue its current traffic count program to regularly monitor traffic on major arterial and collector streets throughout the community. These traffic counts should continue to be used as a basis for verifying future traffic volumes and service levels throughout the community. Traffic increases can be monitored over time and improvements in traffic flow caused by roadway and other improvements. As necessary, additional traffic information should be obtained in conjunction with specific development projects to serve as a basis for analyzing the traffic impacts of the projects. The overriding purpose of these traffic studies is to anticipate and mitigate traffic congestion on City streets according to adopted standards.

Traffic Signalization Interconnect System. The City should continue its plan of establishing a computerized traffic signalization interconnect system for several major streets. A traffic coordination interconnect system can be used to synchronize the timing of green lights along an arterial to minimize the number of stops, thus reducing congestion.

Reserving Space for Future improvements, and Providing for Enhancement to the Aesthetic Qualities of Roadways. As property is developed or redeveloped in Newark, a public landscape and pedestrian easement along streets and at intersections should be reserved. If LOS C is to be maintained, the easements may be needed for roadway improvements. The roadway pavement could be expanded into the existing right-of-way and the sidewalk could move into the easement area. If traffic control measures are introduced that alleviate the anticipated problem and eliminate the need for widening, then these easement areas would be maintained as a permanent landscape area.

Proposed Funding Mechanisms

The City should continue its practice of utilizing all available means to insure that roadway improvements are financed and constructed as needed. In the past, Newark has used assessment districts to pay for roadway and intersection improvements. For example, the City has required commercial and industrial developers in the industrial area to participate in an assessment district to finance arterial improvements.

Appendix T-A
Street Widths and Typical Street Cross Sections

STREET WIDTHS

STREET	CURRENT GEN. PLAN	CURRENT GEN. PLAN R/W WIDTH	CURRENT GEN. PLAN CURB-CURB WIDTH	PROPOSED GEN. PLAN	PROPOSED GEN. PLAN R/W WIDTH	PROPOSED GEN. PLAN CURB-CURB WIDTH	COMMENTS
ARTERIAL STREETS							
(Note: Widths do not include auxiliary lanes)							
Cedar Blvd.							
Thornton Ave. to Haley St.	4 Lane Undivided	88-108	68	2 Lane Divided	108	68	Note 1.
Haley St. to Lido Blvd.	4 Lane Undivided	88	68	2 Lane Divided	88	68	Note 1.
Lido Blvd. to Thornton Ave.	4 Lane Divided	104	84	4 Lane Divided	104	84	
Thornton Ave. to Civic Terrace Ave.	4 Lane Undivided	88	68	4 Lane Divided	104	84	Note 12.
Civic Terrace Ave. to Birch St.	4 Lane Undivided	88	68	4 Lane w/LT Lane	98	78	Note 2.
Birch St. to Stevenson Blvd.	4 Lane Divided	104	84	4 Lane Divided	104	84	
Central Ave.							
I-880 to Cherry St.	4 Lane Divided	104	84	4 Lane Divided	104	84	
Cherry St. to Filbert St.	4 Lane Undivided	88	68	4 Lane w/LT Lane	98	78	Note 2.
Filbert St. to Willow St.	2 Lane Divided	72	52	2 Lane Divided	62	60	Note 6, 10.
Willow St. to Hickory St.	----	--	--	4 Lane Divided	104	84	Note 13.
Hickory St. to North/South Arterial	----	--	--	4 Lane Divided	104	84	Note 13.
Cherry St.							
Thornton Ave. to Central Ave.	4 Lane Divided	100	84	4 Lane Divided	104	84	Note 5.
Central Ave. to Joaquin Murieta Ave.	4 Lane Divided	104	84	4 Lane Divided	104	84	
Joaq. Mur. Ave. to Stevenson Blvd.	4 Lane Divided	104	84	6 Lane Divided	119	108	Note 3, 6, 11.
Jarvis Ave.							
Lake Blvd. to Thornton Ave.	4 Lane Divided	104	84	4 Lane Divided	104	84	
Lake Blvd.							
Jarvis Ave. to Cedar Blvd.	4 Lane Divided	104	84	2 Lane Divided	104	84	Note 1.
Mowry Ave.							
I-880 to Cedar Blvd.	4 Lane Divided	104	84	6 Lane Divided	128	108	Note 3, 6.
Cedar Blvd. to Cherry St.	4 Lane Divided	104	84	4 Lane Divided	104	84	
Cherry St. to Study Area 4	2 Lane Undivided	64	44	4 Lane w/LT Lane	98	78	Note 8.
Newark Blvd.							
Rte 84 to Jarvis Avenue	4 Lane Divided	104	84	6 Lane Divided	128	108	Note 3.
Jarvis Avenue to Central Ave.	4 Lane Divided	104	84	4 Lane Divided	104	84	

Stevenson Blvd.

Balentine Dr. to Cedar Blvd.	4 Lane Divided	104	84	6 Lane Divided	128	108	Note 3, 6.
Cedar Blvd. to Cherry St.	4 Lane Divided	104	84	4 Lane Divided	104	84	Note 7.
Cherry Street to Study Area 4	4 Lane Undivided	88	68	4 Lane Divided	104	84	Note 9.

Thornton Ave.

I-880 to Cedar Blvd.	4 Lane Divided	100	80	6 Lane Divided	119	99	Note 3.
Cedar Blvd. to Olive St.	4 Lane Divided	100	80	4 Lane Divided	104	84	Note 5.
Olive St. to Willow St.	4 Lane Undivided	80	64	4 Lane Divided	104	84	Note 12.
Willow St. to Cedar Blvd.	4 Lane Divided	100	80	4 Lane Divided	104	84	Note 5.
Cedar Blvd. to Jarvis Ave.	4 Lane Divided	104	84	4 Lane Divided	104	84	
Jarvis Ave. to Rte. 84	4 Lane Divided	104	84	6 Lane Divided	128	108	Note 3.

COLLECTOR STREETS**Balentine Dr.**

Cedar Blvd. to Stevenson Blvd.	-----	--	--	4 Lane w/LT Lane	88	68	Note 6.
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Carter St.

Sycamore St. to SPRR	4 Lane Undivided	80	64	2 Lane w/LT Lane	84	64	Note 5.
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Cherry St./Brittany Dr.

Thornton Ave. to Dairy Ave.	-----	--	--	2 Lane Undivided	64	44	Note 6.
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Dairy Ave. to Newark Blvd.	-----	--	--	2 Lane Undivided	60	40	Note 6.
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Edgewater Dr.

Lake Blvd. to Cedar Blvd.	2 Lane Divided	80	64	2 Lane Divided	74	54	Note 6.
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Enterprise Dr.

North/South Arterial to Hickory St.	-----	--	--	4 Lane Undivided	88	68	Note 13.
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Hickory St. to Filbert St.	4 Lane Undivided	80	68	4 Lane Undivided	88	68	Note 5.
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Filbert St.

SPRR to Enterprise Dr.	4 Lane Undivided	80	64	2 Lane w/LT Lane	84	64	Note 4, 5.
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Enterprise Dr. to Central Ave.	4 Lane Undivided	80	64	2 Lane Undivided	84	44	Note 5.
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Haley St.

Jarvis Ave. to Bettencourt St.	4 Lane Divided	80	64	4 Lane Divided	92	72	Note 6.
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Bettencourt St. to Cedar Blvd.	4 Lane Undivided	80	64	2 Lane Undivided	64	44	Note 6.
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Cedar Blvd. to Mayhews Landing Rd.	4 Lane Undivided	80	64	2 Lane w/LT Lane	84	64	Note 4, 6.
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Hickory St.

Central Ave. to Enterprise Dr.	2 Lane Undivided	64	44	2 Lane Undivided	64	44	
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Joaquin Murieta Ave.

Cedar Blvd. to Cherry St.	4 Lane Undivided	80	64	2 Lane Undivided	64	44	Note 6.
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Lafayette Ave.

Cherry St. to Cedar Blvd.	2 Lane Undivided	60	34	2 Lane Undivided	60	40	Note 6.
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Mayhews Landing Rd.								
Thornton Ave.(East) to Haley St.	<i>2 Lane Undivided</i>	60	34	2 Lane Undivided	60	40	40	Note 6.
Smith Ave.								
Cedar Blvd. to Cherry St.	<i>2 Lane Undivided</i>	80	64	2 Lane Undivided	64	44	44	Note 6.
Spruce St.								
Jarvis Ave. to Thornton Ave.	<i>2 Lane Undivided</i>	80	64	2 Lane Undivided	64	44	44	Note 6.
Sycamore St.								
Mayhews Landing Rd. to Central Ave.	<i>4 Lane Undivided</i>	80	64	2 Lane w/LT Lane	84	64	64	Note 4.
Willow St.								
Cedar Blvd. to Thornton Ave.	<i>4 Lane Undivided</i>	80	64	2 Lane Undivided	64	44	44	Note 6.
Thornton Ave. to Enterprise Dr.	<i>4 Lane Undivided</i>	80	64	2 Lane w/LT Lane	84	64	64	Note 5.
Enterprise Dr. to Central Ave.	<i>4 Lane Undivided</i>	80	64	4 Lane Undivided	90	64	64	Note 6.

Note 1. Reduce from 4 lane arterial to 2 lane arterial; maintain existing R/W width and curb to curb width.

Note 2. Add 2 way left turn lane.

Note 3. Increase from 4 lane arterial to 6 lane arterial.

Note 4. Reduce from 4 lane collector to 2 lane collector with two-way left-turn lane.

Note 5. Increased right of way width to conform to standard cross sections.

Note 6. Change to reflect existing geometrics

Note 7. Actual right of way width wider due to existing median widths.

Note 8. Increase from 2 lane undivided to 4 lane with left turn lane.

Note 9. Revisions to conform to City of Fremont and anticipated traffic volumes.

Note 10. Does not include 9' easements on each side.

Note 11. Does not include 50' easements on west side.

Note 12. Increase width to provide median.

Note 13. New street.

128'											
10'	108'										10'
10'	8'	12'	12'	14'	16'	14'	12'	12'	8'	10'	
Sidewalk	Parking	Travel Lane	Travel Lane	Travel Lane	Raised Median	Travel Lane	Travel Lane	Travel Lane	Parking	Sidewalk	



6 LANE DIVIDED ARTERIAL
Standard Cross Section - A1

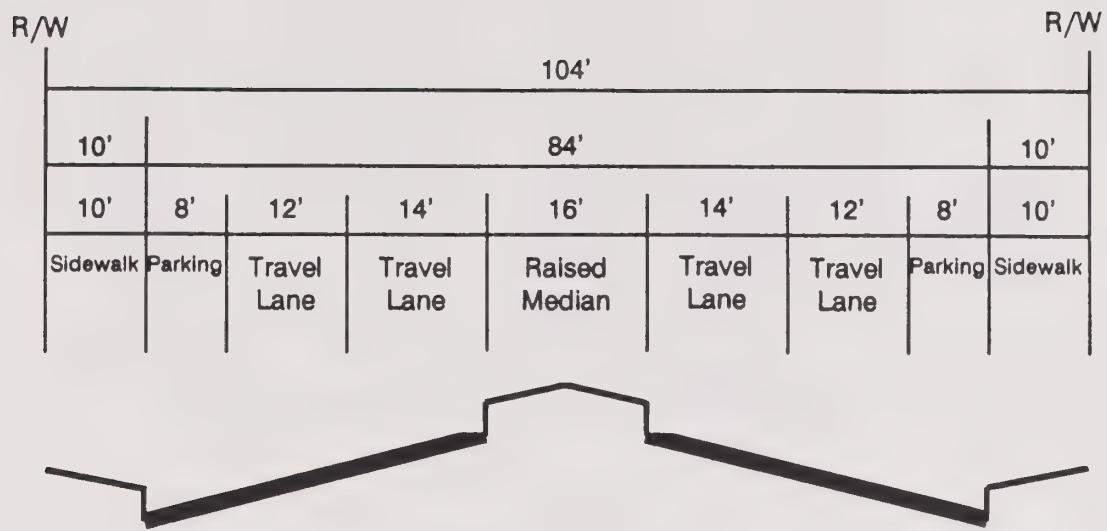
119'											
64'						55'					
10'	99'										10'
Sidewalk	Parking	Travel Lane	Travel Lane	Travel Lane	Raised Median	Travel Lane	Travel Lane	Travel Lane	Travel Lane	Sidewalk	
10'	8'	12'	12'	14'	16'	12'	12'	13'	10'		



6 LANE DIVIDED ARTERIAL
Thornton Avenue
Cedar Boulevard to I-880

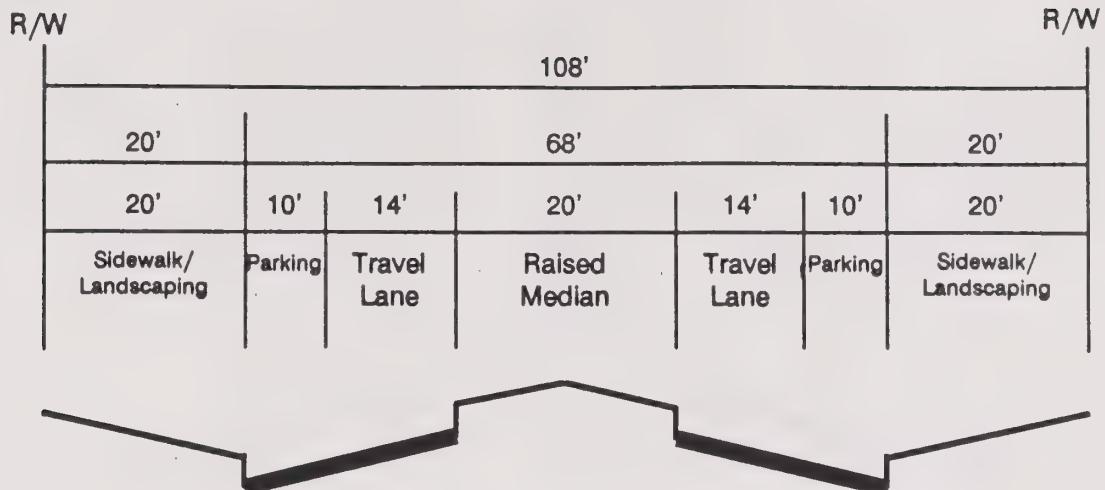
TYPICAL STREET CROSS SECTIONS

CITY OF NEWARK
California

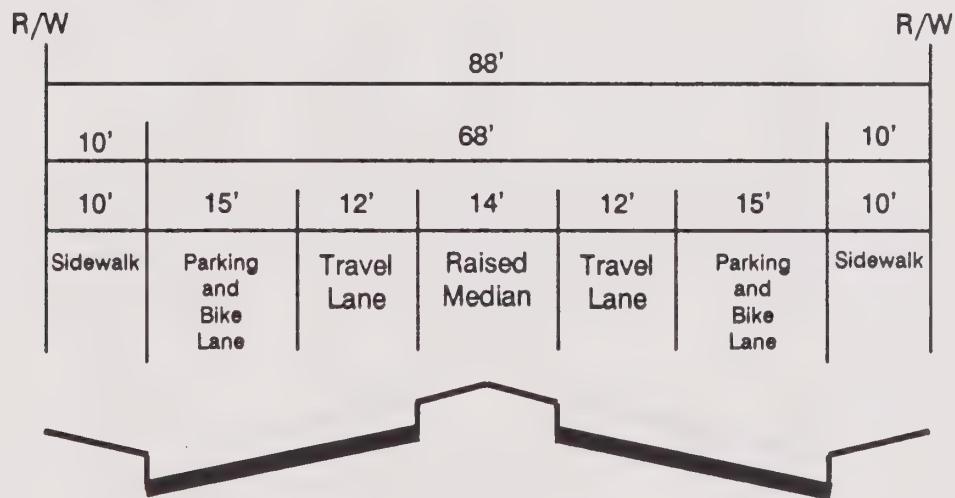


**TYPICAL STREET
CROSS SECTIONS**

CITY OF NEWARK
California



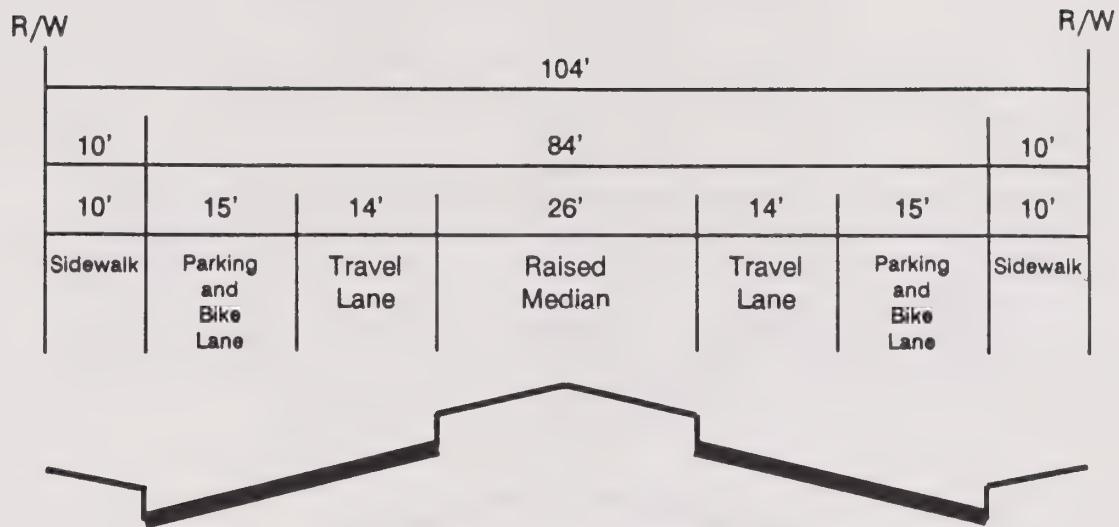
2 LANE DIVIDED ARTERIAL
Cedar Boulevard
 Thornton Avenue to Haley Street



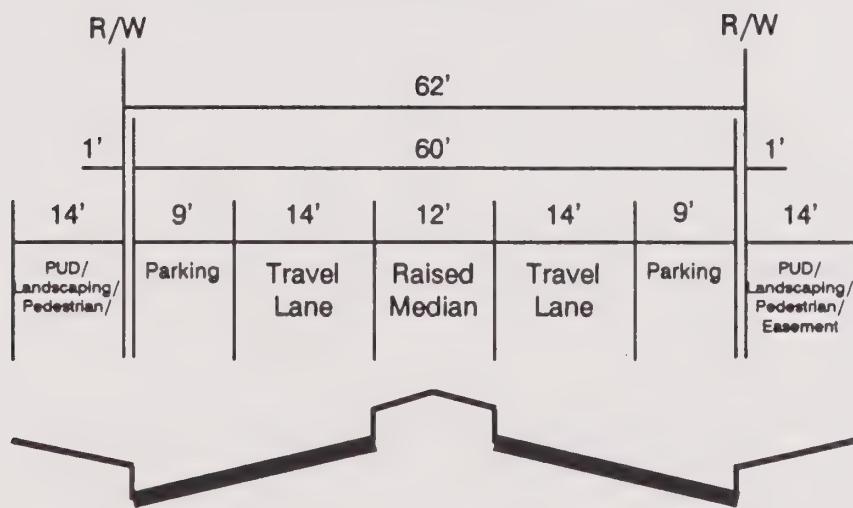
2 LANE DIVIDED ARTERIAL
Cedar Boulevard
 Haley Street to Lido Boulevard

**TYPICAL STREET
CROSS SECTIONS**

CITY OF NEWARK
California



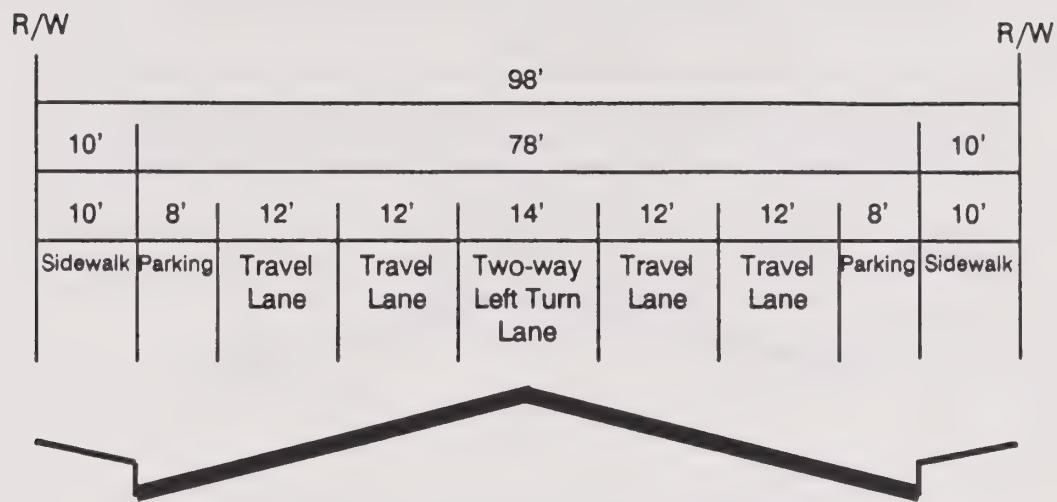
2 LANE DIVIDED ARTERIAL
Lake Boulevard



2 LANE DIVIDED ARTERIAL
Central Avenue
 Filbert Street to Willow Street

**TYPICAL STREET
 CROSS SECTIONS**

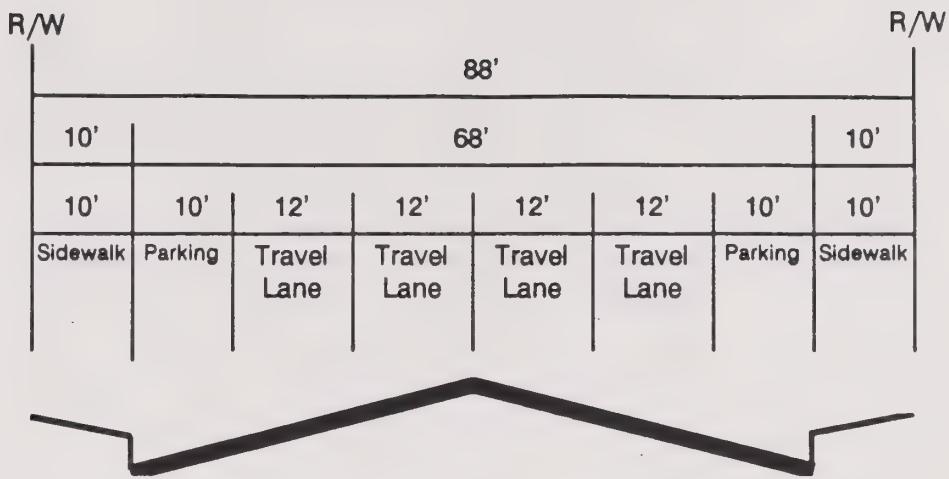
CITY OF NEWARK
California



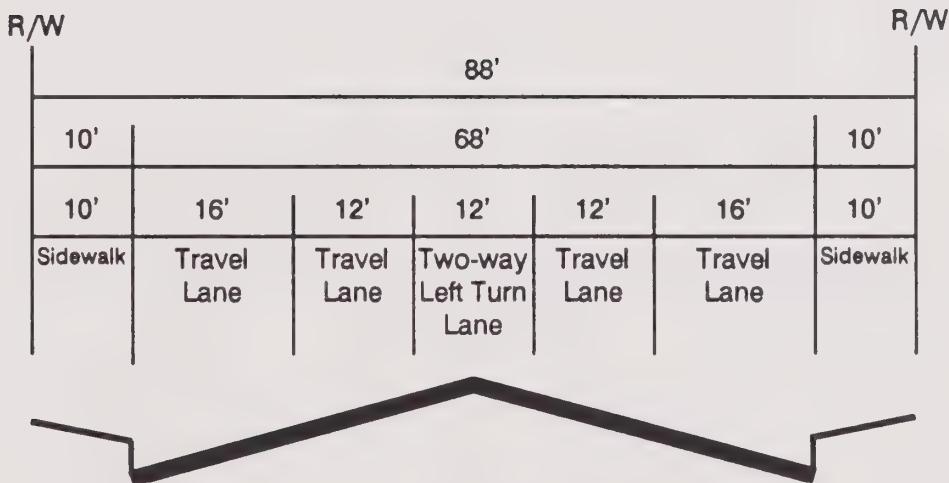
**4 LANE UNDIVIDED ARTERIAL
WITH TWO-WAY LEFT TURN LANE**
Standard Cross Section - A3

**TYPICAL STREET
CROSS SECTIONS**

CITY OF NEWARK
California



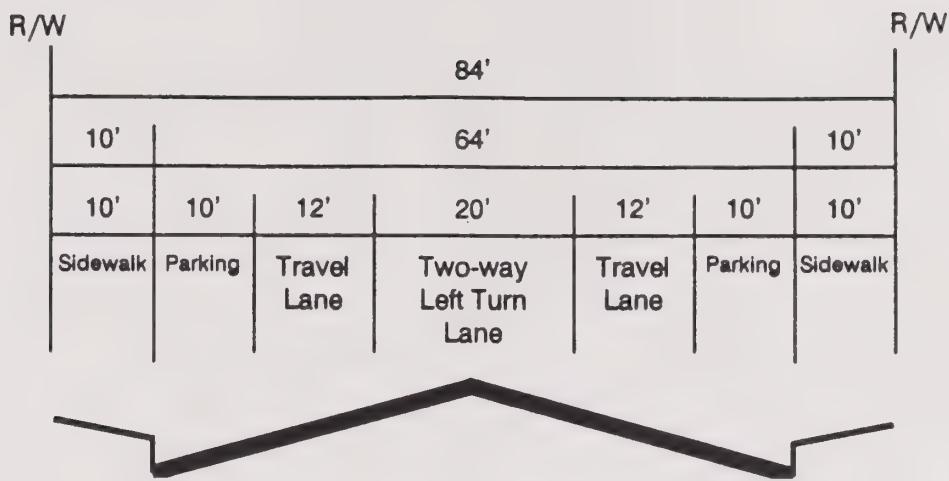
4 LANE UNDIVIDED COLLECTOR
Standard Cross Section - C1
(Low Volume)



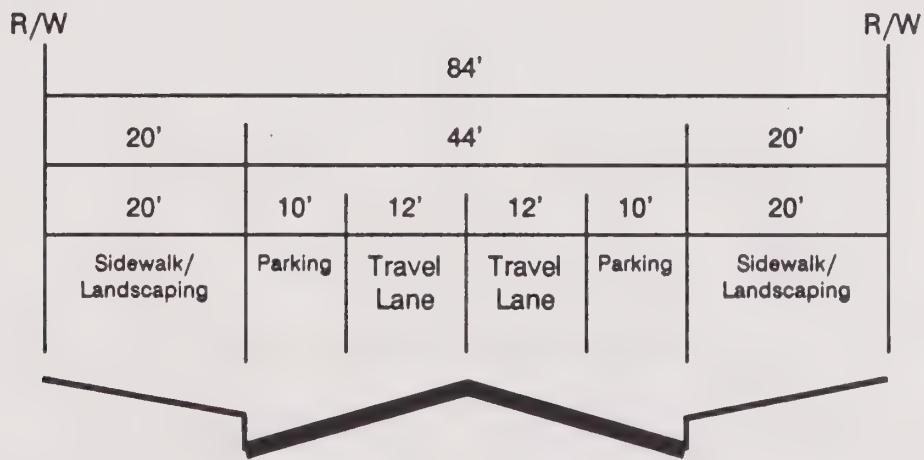
4 LANE UNDIVIDED COLLECTOR
WITH TWO-WAY LEFT TURN LANE
Balentine Drive

**TYPICAL STREET
CROSS SECTIONS**

CITY OF NEWARK
California



**2 LANE UNDIVIDED COLLECTOR
WITH TWO-WAY LEFT TURN LANE**
Standard Cross Section - C2



2 LANE UNDIVIDED COLLECTOR
Filbert Street
Enterprise Drive to Central Avenue

**TYPICAL STREET
CROSS SECTIONS**

CITY OF NEWARK
California

Chapter 5. HOUSING

Chapter 5. HOUSING

5.1 INTRODUCTION

The California Legislature has declared the early attainment of a decent home and a satisfactory living environment for all Californians a high priority (Health and Safety Code, Section 5002). To help attain this goal, all local governments are required by the legislature to adopt a housing element as part of their general plans and to update their housing elements at least every five years. This is Newark's Housing Element for the five-year period from 1990 to 1995.

Public Participation

The housing element has been revised as part of a complete update of the Newark General Plan--a project which was initiated in 1987 with two public workshops to which every resident in town was invited by mail. Those attending were asked to volunteer to serve on one of five committees formed to ensure public participation in the revision process. One committee, Community Development, worked on the land use and housing elements. This was the largest committee with 76 members drawn from all parts of Newark.

The Community Development Committee met six times from October 1987 to June 1988. During that time, it also met twice jointly with the other four committees. Then after a break to give staff time to prepare draft materials, the members of all five committees met seven times in 1989 and 1990 to give direction on land use alternatives and goals, policies and programs for each element, including the housing element. In addition, the element was considered at numerous Planning Commission and City Council meetings, including public hearings held prior to adoption of the General Plan.

Consistency with the General Plan

Because the housing element has been revised as part of a thorough revision of the General Plan, problems of consistency have been resolved during the process. As currently drafted, the General Plan, including the housing chapter, is an internally consistent document.

The General Plan establishes goals, policies and programs to guide the city for 20 years. However, the housing program, as required by the state, details actions the city will take to make sites available for housing serving all segments of the community from 1990 to 1995.

5.2 BACKGROUND

The following sections describe the population, employment and housing characteristics of Newark using the best available information. Much of the data are from the 1980 Census and are now out-of-date. These data have been updated when using other sources such as projections by the Association of Bay Area Governments (ABAG), estimates of the Population Research Unit of the California Department of Finance, city records, and local newspapers.

[Qualifications Regarding Use of Census Data.] In some chapters reference is made to 1990 Census total population counts. These figures are referred to where appropriate to provide perspective to specific general plan goals, policies and programs. At the same time, detailed 1990 Census data, as would be necessary to fulfill the requirements for this housing chapter, were not available. Thus, 1980 Census information was used and updated when other, more current published

information was available. At the next mandated Housing Element update, 1990 census data should be available and will be used in preparing the necessary revisions to this Chapter.]

Population Trends

Table 5-1 shows the population of Newark every ten years from 1960 to 1980, estimated population in 1990, and projected population in 2000 and 2005. The percent increase in population from each decade to the next is also shown.

Table 5-1.
POPULATION IN CITY OF NEWARK, 1960-2000

Year	Population	Percent Increase
1960*	9,911	
1970*	27,157	174.0 %
1980*	32,126	18.3
1990**	39,500	23.0
2000***	43,600	10.4
<u>2005***</u>	<u>45,700</u>	<u>4.8</u>

* U.S. Census

** California Department of Finance

*** ABAG, PROJECTIONS 90.

Table 5-2
POPULATION GROWTH IN NEWARK DURING THE 1980'S

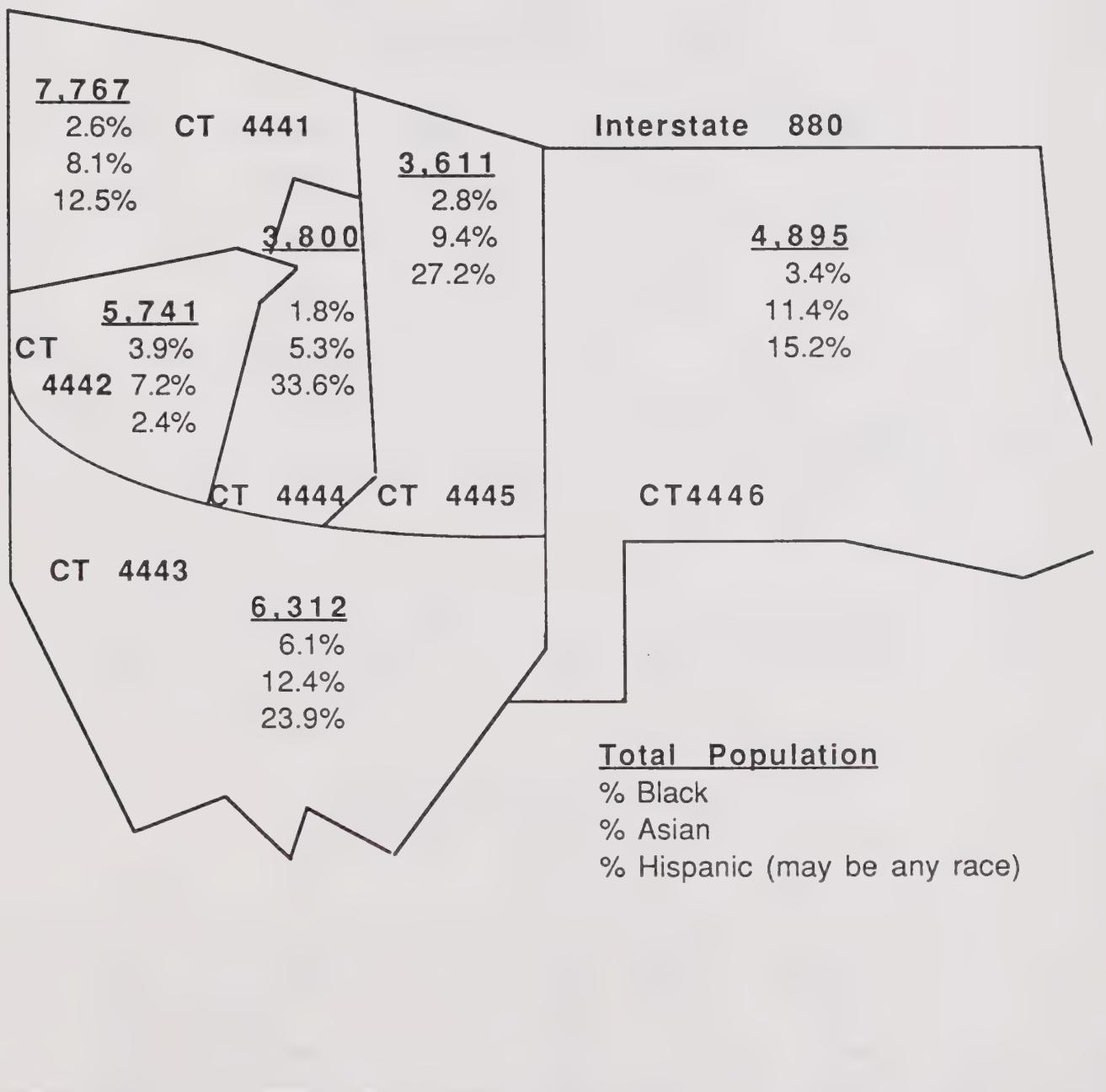
Date	Population	Population Added
1980	32,126	
1981	32,609	483
1982	32,689	80
1983	4,645	1,956
1984	35,458	813
1985	36,569	1,111
1986	37,064	495
1987	37,965 *	01
1988	39,186	1,221
1989	39,240	54
1990	39,482	242
Total		7,356

* includes 155 people in "group quarters" for the first time. These are the residents of Newark Gardens, a subsidized housing project for the elderly.

Source: California Department of Finance, Report E-5, Population and Housing Estimates, issued annually.

Table 5-1 indicates that Newark grew at a higher rate in the 1980's than in the 1970's. In the 1970's Newark added slightly under 5,000 people (about 500 per year), while during the 1980's

Figure 5-1
City of Newark
RACIAL AND ETHNIC POPULATION
BY CENSUS TRACT 1980



Newark added over 7,000 people during the decade or 736 people per year. *Table 5-2* summarizes population growth by year during the 1980's.

Age of Population

Table 5-3 shows the distribution of population by age in 1980 in Newark and Alameda County. Newark has a higher percentage of children under 18 and a lower percentage of people over 65 years old than Alameda County as a whole.

Table 5-3.
DISTRIBUTION OF POPULATION BY AGE,
Newark and Alameda County 1980

<u>Age</u>	Newark		Alameda County	
	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>
0-17	11,432	35.6	77,466	25.1
18-64	9,661	61.2	713,707	64.6
<u>65+</u>	<u>1,033</u>	<u>3.2</u>	<u>144,206</u>	<u>10.3</u>
	32,126	100.0	1,105,379	100.0

Source: U.S. Census, 1980.

During the 1980's, it is likely that the percentage of population 65 years and older increased simply because of the aging of the 1980 population. The percentage of children may also have increased because of an areawide increase in the birth rate and the fact that almost two-thirds of the adult women in 1980 were between 20 and 34 years old and of child bearing age during the 1980's.

Racial and Ethnic Distribution

Table 5-4 shows Newark's 1980 population by race and ethnic group. In the 1980 census, "persons of Spanish origin" (Hispanics) were counted as members of a racial group (white, black, etc.) and also counted separately as an ethnic group. In this table, Hispanics have been subtracted from the white, black and "other" racial groups.

Table 5-4.
RACIAL AND ETHNIC DISTRIBUTION,
Newark and Alameda County, 1980

	Newark		Alameda County	
	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>
White (non-Hispanic)	21,143	65.8	675,338	61.1
Black (non-Hispanic)	1,117	3.5	200,950	18.2
Native American	297	.9	7,446	0.7
Asian/Pacific Island	2,922	9.1	85,899	7.8
Other Races (non-Hispanic)	28	0.1	5,784	0.5
<u>Hispanic</u>	<u>6,619</u>	<u>20.6</u>	<u>129,962</u>	<u>11.8</u>
	32,126	100.0	1,105,379	100.1

Source: U.S. Census, 1980.

The table shows that in 1980, Newark's population was 65.8 percent white, 20.6 percent Hispanic, 9.1 percent Asian and the rest black, native American, or some other race. In 1980, Newark had a lower percentage of blacks than Alameda County, but a higher percentage of Hispanics and other racial minorities. Of the Asians in Newark, almost half were Filipino and nearly one-fourth were Chinese.

Figure 5-1 shows the census tract boundaries for the 1980 Census and the distribution of population by race and ethnic group by census tract. The figure indicates that in 1980, the greatest concentration of blacks, Asians and Hispanics was in Census Tract 4443 on the west side of the city. Census Tract 4444 had the smallest percentage of blacks and Asians, but a high percentage of Hispanics.

During the 1980's, it appears that the percentage of minority population, particularly Asians, increased in Newark while the percentage of whites decreased. Table 5-5 shows enrollment data for the Newark Unified School District as of October 1989. The percentage distribution of the student population in 1989 is compared with the 1980 distribution for the total population. Although the data are not directly comparable because school age children are not evenly distributed among racial and ethnic groups, the high percentage of Asian school children probably indicates a real increase in the proportion of Newark's total population that is Asian.

Table 5-5
RACE AND ETHNICITY OF STUDENTS IN NEWARK UNIFIED SCHOOL DISTRICT
OCTOBER 1989, COMPARED WITH TOTAL POPULATION 1980

	1989		1980	
	# Students	Percent	Percent	Total Population
White (non-Hispanic)	3,891	56.5	65.8	
Black (non-Hispanic)	364	5.3	3.5	
Native American	5	0.2	0.9	
Asian/Pacific Island	1,042	15.2	9.1	
Hispanic	1,573	22.8	20.6	
<u>Other</u>			0.1	
Total	6,885	100.0	100.0	

Sources: Newark Unified School District, 1990, data from CBEDS form reported by telephone by Katie Janson, October 12, 1990. 1980 population data is from Table 4.

Households

As shown in Table 5-6, almost 90 percent of the households in Newark in 1980 were families of two or more persons and over three-fourths of the households consisted of a married couple with or without children. Only 6.8 percent of the households were people living alone and 3.5 percent were composed of non-related people. Conventional families were much more prevalent in Newark than in Alameda County as a whole in which fewer than half of the households contained a married couple.

According to Table 5-6, 5,442 of the families had children under 18 years old, and 648 families headed by women had children under 18 years old. There are very few single-person households. These data are also consistent with the age information listed in Table 5-3 which shows that Newark has a higher percentage of children and a lower percentage of elderly people than

Alameda County. The 1980 Census also indicates that boarders or roomers lived in 266 of Newark's households.

Table 5-6.
HOUSEHOLD COMPOSITION
 Newark and Alameda County, 1980

Type of Household		Newark		Alameda County	
		#	(w/child.)	%	(w/child.)
1 person	male	335	3.6	12.8	
	female	292	3.2	15.5	
Family	married couple	7,086	(4,616)	76.9	(65.1)
	male head; no wife	299	(178)	3.2	(59.5)
	female head	880	(648)	9.5	(73.6)
Non-family	male head	240	2.6	4.4	
	female head	84	0.9	2.9	
Total Households		9,216	100.0	100.0	

Source: U.S. Census, 1980

Household Income

In 1979, Newark's median household income was \$26,368, higher than the regional median of \$20,607. Using the regional median income of \$20,607 as a basis for defining income categories, Table 5-7 shows the distribution of household income in Newark and Alameda County in 1979. Newark had a higher percentage of above moderate income households and a much lower percentage of very low income households than Alameda County. Still, almost half of Newark's households in 1979 had moderate or lower incomes, thus qualifying for some form of housing assistance.

The income ranges in Table 5-7, based on the regional median, are very low, placing the majority of Newark's households in the "above moderate income" category. In fact, the 1980 Census reports that almost all of the 56 percent with above moderate incomes had incomes under \$50,000. Newark was a community of primarily middle-income households. Very few had very low or very high incomes.

Table 5-7.
HOUSEHOLD INCOME IN NEWARK AND ALAMEDA COUNTY, 1979

Income Category	% of Median	Income Range	Newark		Alameda County	
			Households	Percent	Percent	Percent
Very Low	50% or less	\$10,304 or less	1,014	11	28	
Low	51% to 80%	\$10,305-\$16,486	922	10	17	
Moderate	81% to 120%	\$16,487-\$24,728	2,120	23	20	
Above Mod.	over 120%	over \$24,728	5,162	56	40	
Totals			9,218	100%	100%	

Source: ABAG, 1989, HOUSING NEEDS DETERMINATIONS and U.S. Census, 1980.

Figure 5-2 shows the distribution of these moderate, low and very low income households by census tract. The figure shows that in 1979 over 60 percent of the households in Census Tracts 4444 and 4445 had annual incomes less than than \$25,000. Census Tract 4445 had the highest percentage of very low and moderate income households and Census Tract 4444 had the highest percentage of low income households.

In 1989 ABAG estimated changes in average household income in Newark from 1980 to 2005 using constant 1988 dollars. ABAG sees average household income increasing from \$44,479 in 1980 to \$55,000 in 2005. Among the 16 cities of Alameda County, only Piedmont, Pleasanton, and Dublin had higher average household incomes in 1980. By 1985, ABAG estimates that Fremont overtook Newark in average household income and projects that it will remain ahead through 2005.

By 1995, ABAG projects that average household income in Newark will be \$50,300 (in 1988 dollars), increasing 13.1 percent from 1980. This is a very low projected increase. Average income is projected to increase by 23.1 percent in the region and 20.8 percent in Alameda County. Of the 16 cities in Alameda County, only Dublin is projected to have a smaller percentage increase from 1980 to 1995. This may be because ABAG expects Newark to continue as a community "in the middle" without many very high or very low income households.

Employment Trends

In California there is increasing awareness of the need for communities to balance growth in employment with growth in housing. Such balance makes it at least possible for more people to live and work in the same community, reducing the numbers who must commute long distances on increasingly congested highways. Newark originally grew as a railroad and manufacturing center with a balance in jobs and housing. The balance shifted in the 1960's when Newark experienced a boom in housing construction. Population increased 174 percent during the decade, turning Newark into a "bedroom" community providing housing for people who commuted to jobs outside Newark. Housing construction remained strong during the 1970's and 1980's, but Newark began an effort to attract industry and business to the city. By 1980, housing and jobs in Newark were well-balanced.

Employed Residents

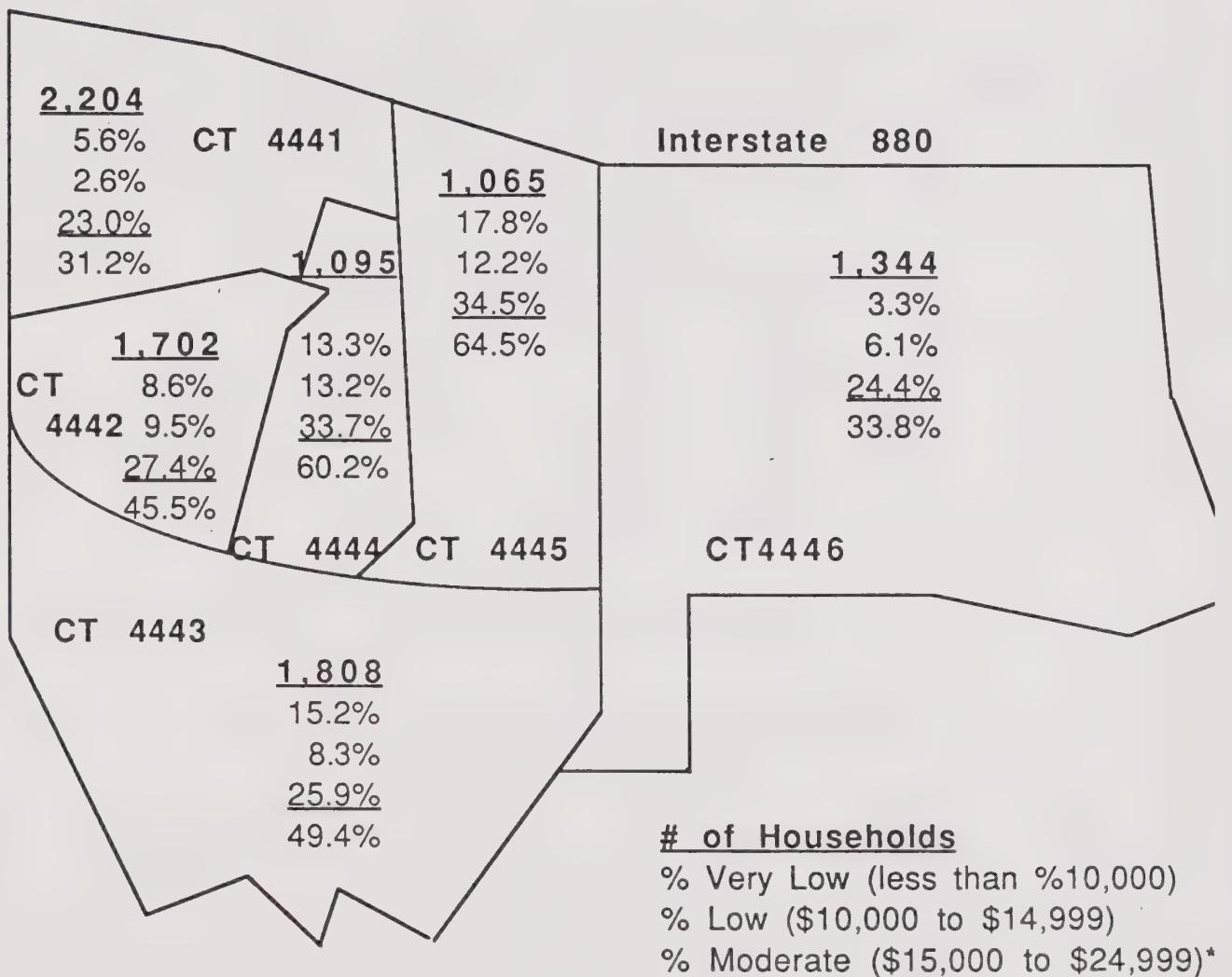
ABAG estimates that in 1980 Newark had 10,888 jobs and 9,216 households with 15,157 employees (ABAG, 1989, PROJECTIONS 90). The ratio of employees per household was 1.645, the highest ratio of any community in the Bay Area except for Milpitas which had 1.670 (ABAG, 1989, PROJECTIONS 90). This stems from the fact that Newark had a high average household size (3.48 persons per household), very few single person households (6.8 percent), and a large percentage of its population of working age (16 to 64) and in the labor force. ABAG projects that this high ratio will be even higher in 1995.

Table 5-8.
HOUSEHOLDS AND EMPLOYED RESIDENTS, 1980-1995

Date	Households	Employed Residents	Ratio of Employees to Households
1980	9,216	15,157	1.645
1985	10,840	18,200	1.679
1990	12,280	20,300	1.653
1995	13,290	22,200	1.670

Source: ABAG, 1989, PROJECTIONS 90.

Figure 5-2
 City of Newark
 PERCENTAGE OF VERY LOW, LOW AND MODERATE
 INCOME HOUSEHOLDS BY CENSUS TRACT 1980



* The categories are those defined in Table 5-7 adjusted to the categories reported in 1980 Census. The adjustment understates low income and overstates moderate income.

Table 5-8 lists the number of households and employed residents estimated by ABAG for each 5 year period from 1980 to 1995. The ratio of employed residents to households is also shown. Table 5-8 indicates that in the 15 years from 1980 to 1995 Newark is expected to add 4,074 households for an increase of 44.2 percent. The number of employed residents is projected to increase by 7043 or 46.5 percent.

Jobs in Newark

Table 5-9 shows the estimated increase in jobs in Newark from 1980 to 1995. During this time, jobs are projected to increase by 9,532 or by 87.5 percent. Thus, if trends occur as projected by ABAG, in 1995 Newark will have 20,420 jobs, 13,290 households and 22,200 employed residents. Although the projected growth in jobs is much greater than the projected growth in either households or employed residents, Newark will still have more employed residents than jobs in 1995.

Table 5-9.
JOBS IN NEWARK BY TYPE, 1980-1995

	1980	1985	1990	1995
Agriculture and Mining	12	10	10	10
Manufacturing and Wholesale	6,182	7,020	9,700	10,990
Retail	2,208	3,140	3,640	4,550
Service	1,063	2,110	2,200	3,200
Other	1,423	1,510	1,590	1,670
Totals	10,888	13,790	17,140	20,420

Source: ABAG, 1989, PROJECTIONS 90.

Table 5-10.
JOBS IN NEWARK AND EMPLOYMENT OF NEWARK RESIDENTS
IN SELECTED CATEGORIES, 1980

Employment Categories	Number	Jobs	Employed Residents	
		Percent	Number	Percent
Manufacturing	4,637*	49.1	5,272	52.5
Wholesale/Retail	3,753*	39.7	3,146	31.3
Service	1,063	11.2	1,633	16.2
Total	9,453	100.0	10,051	100.0

* ABAG PROJECTIONS 90 presents a single number for manufacturing and wholesale jobs for the subregions, but presents them separately for the counties. Here they have been split for Newark using the same percentages as for Alameda County--75 percent manufacturing and 25 percent wholesale.

Sources: Job data are from the California Employment Development Department as reported in ABAG, 1989, PROJECTIONS 90; employed resident data is from the U.S. Census, 1980.

Table 5-9 indicates that 4,808 of the new jobs created between 1980 and 1995 will be in manufacturing and wholesale. This is slightly over half of all the jobs projected to be added during this period.

Looking at the match between the kind of employment held by residents and the type of jobs in Newark in 1980 reveals a very close correspondence. *Table 5-10* shows that, considering employment in manufacturing, wholesale/retail and services, the number of jobs and employed residents were similarly distributed among the categories. About half of the jobs and employees were in manufacturing, a third in wholesale/retail and the rest in services. This implies a good balance between the kinds of jobs available in Newark and needs and skills of Newark's employed residents in 1980.

Housing Characteristics

In 1980, Newark had 9,460 housing units, 8,183 or 87 percent of which were detached single family houses. The rest consisted of 240 attached single family houses, 1,018 multifamily units, and 19 mobile homes.

As shown in *Table 5-11*, since April 1980, Newark has added 2,882 housing units, averaging approximately 288 units per year. A majority (1,666 units) were "attached" single family houses (townhouses with commonwalls which serve as property lines), and another 436 were detached single family houses. During the decade, 782 multifamily units were added—59 in buildings with 2 to 4 units and 723 in buildings with 5 or more units. Two mobile homes were lost during the decade. The peak of new construction came in 1987 with 550 new units; after that annual production fell sharply to 83 units in 1988 and 95 units in 1989.

Table 5-11.
ANNUAL INCREASE IN HOUSING, 1980 TO 1990

	Total Units	Added Units	Single-family		Multifamily		Mobile Homes
			Dtch'd	Attach'd	2-4	5+	
1980	9,460		8,183	240	398	620	19
1981	9,528	68	68	0	0	0	0
1982	9,727	199	53	146	0	0	0
1983	10,096	369	-4	375	-2	0	0
1984	10,542	446	15	153	0	278	0
1985	11,017	475	-1	388	0	88	0
1986	11,351	334	83	231	20	0	0
1987	11,614	263	9	230	6	0	-2
1988	12,164	550	103	143	11	293	0
1989	12,247	83	29	0	8	46	0
<u>1990</u>	<u>12,342</u>	<u>95</u>	<u>61</u>	<u>0</u>	<u>16</u>	<u>18</u>	<u>0</u>
Total	12,342	2,882	8,619	1,906	457	1,343	17

Source: California Department of Finance, Demographic Research Unit, Report E-5, Alameda County Population and Housing Estimates, April 1, 1980, January 1, 1981-1990.

Table 5-12 summarizes the changes in the housing stock between 1980 and 1990. During the decade, the number of housing units increased by 30.5 percent, while population increased 23 percent (see *Table 5-1*). The result has been a drop in the number of persons per household. According to the Department of Finance, the average number of people per household fell during the decade from 3.48 in 1980 to 3.26 in 1990. The 1990 occupancy rate is still much higher than the 2.5 rate for Alameda County and the highest of all the cities in Alameda County except for Union City with an estimated rate of 3.27 persons per household.

Table 5-12.
INCREASE IN HOUSING UNITS BY TYPE, 1980 AND 1990

<u>Housing Units</u>	<u>1980</u>	<u>Percent</u>	<u>1990</u>	<u>Percent</u>	<u>Increase</u>	<u>Percent Increase</u>
Single-family Detached	8,183	86.5	8,619	69.8	436	5.3
Single-family Attached	240	2.5	1,906	15.4	1,666	694.2
Multifamily 2-4 Units	398	4.2	457	3.7	59	14.8
Multifamily 5 + Units	620	6.6	1,343	10.9	723	116.6
Mobile Homes	19	0.2	17	0.1	-2	-10.5
Total	9,460	100.0	12,342	99.9	2,882	30.5

Source: California Department of Finance, Demographic Research Unit, Report E-5, Alameda County Population and Housing Estimates, April 1, 1980, January 1, 1981-1990.

Housing Occupancy

During the 1980's, all but a very few of the housing units in Newark were occupied year-round. As shown in *Table 5-13*, 77.3 percent of the housing units were occupied by owners in 1980, 22.7 percent were renter-occupied. Most of the renter-occupied units were in Census Tracts 4443 and 4445 and almost 60 percent of the rental units were single-family detached or attached units. It appears that many townhouses sold as condominiums become rental properties. The other 40 percent rentals were multifamily units. With the addition of more multifamily units and townhouses than detached single family houses during the 1980's, the percent of renter-occupied units may have increased.

Table 5-13.
OCCUPANCY OF HOUSING UNITS, 1980

<u>Occupancy Status</u>	<u>Number</u>	<u>Percent</u>
Owner-occupied	7,125	77.3
Renter-occupied	2,091	22.7
Total	9,216	100.0

Source: U.S. Census, 1980

Overcrowded Housing

In 1980, 3,960 Newark residents lived in 669 overcrowded units, that is, units with 1.01 or more persons per room. More than a quarter of the overcrowded units were in Census Tract 4443. No current information on the incidence of overcrowding is available.

Substandard Housing

Housing condition is generally excellent in Newark. As shown in *Table 5-14*, all but a handful of Newark's housing units have been built since 1950 with the largest number (4,222) built in the 1960's. Almost a quarter have been added in the 1980's, including most of the multifamily and attached single family houses. Most of the older housing units are single family houses.

The most recent data on housing condition are from a 1979 survey done for Newark's housing assistance plan indicating that Newark had a total of 106 substandard units, and the 1980 Census

showing 36 lacking complete plumbing. Most of the houses lacking plumbing were in Census Tract 4443, on the west side of the Southern Pacific tracks. It is likely that private redevelopment is gradually removing or upgrading most of these units.

Table 14.
AGE OF HOUSING STOCK

<u>Year Built</u>	<u># of Units</u>	<u>% Units</u>
1980-1989	2,882	23.4
1975-1979	1,471	11.9
1970-1974	1,332	10.8
1960-1969	4,222	34.2
1950-1959	2,001	16.2
1940-1949	265	2.1
<u>1939 or before</u>	<u>169</u>	<u>1.4</u>
Total Units	12,342	100.0%

Source: U.S. Census, 1980 for data to 1980; California Department of Finance for 1980-1989 data.

Housing Affordability, 1980

In 1980, Newark's median household income was \$26,368. This means that half of the households had incomes below \$26,368 and half had incomes above \$26,368. The U.S. Department of Housing and Urban Development considers housing "affordable" that costs no more than 30 percent of a household's monthly income. Using this rule of thumb, the household with median income in Newark could pay \$659 per month for housing.

In 1980 the median rent was \$364 and the median mortgage payment was \$448—both affordable to a household with the median income. The median price of a house was \$86,800. The cost of a 30-year, fixed rate mortgage at 10 percent interest to purchase the median priced house with a \$17,360 downpayment (20 percent) would have been about \$610 per month. Again, this would be affordable to a household with the median income.

Table 5-15 shows the distribution of house value in Newark in 1980. In 1980, over two-thirds of the owner-occupied houses were valued between \$50,000 and \$100,000. Less than 2 percent of the units exceeded \$150,000 in value—none in Census Tracts 4442 or 4444—and less than 4 percent of the units were under \$50,000 in value. Newark was providing owner housing for a relatively narrow segment of the middle income population.

Table 5-15.
DISTRIBUTION OF HOUSE VALUE IN NEWARK, 1980

<u>House Value</u>	<u>Owner-Occupied Units</u>	<u>Percent</u>
Less than \$25,000	41	0.6
\$25,000-\$49,999	205	3.1
\$50,000-\$99,999	4,474	68.0
\$100,000-\$149,999	1,728	26.3
\$150,000 and over	128	1.9
	6,576	99.9

Source: U.S. Census, 1980

Table 5-16 shows the distribution of rents in 1980. Only 6.6 percent of the renters were paying less than \$200 per month and almost 40 percent were paying more than \$400 per month. Relative to the region, rents were higher in Newark in 1980 than house values.

According to the census, Newark had 1,989 low income households in 1980 (incomes below 80 percent of the median), of which 65 percent or 1,292 were paying more than 25 percent of their incomes for housing. As shown in Table 5-17, a higher proportion of low-income renter than owner households were overpaying for housing (78 percent to 54 percent) although more owners than renters had low incomes.

Table 5-16.
DISTRIBUTION OF RENTS, 1980

Rent	Renter-Occupied Units	Percent
No Cash Rent	12	0.6
Less than \$100	20	1.0
\$100-\$199	101	5.0
\$200-\$299	562	27.5
\$300-\$399	541	26.5
<u>\$400 and over</u>	<u>804</u>	<u>39.4</u>
	2,040	100.0

Source: U.S. Census, 1980

Table 5-17.
LOW INCOME HOUSEHOLDS OVERPAYING FOR HOUSING--1980

	Low income Households	Low income HH's Overpaying	Proportion Low income HH's Overpaying
Owner	1,069	572	.54
Rental	920	720	.78
Totals	1,989	1,292	.65

Source: U.S. Census, 1980 as presented in ABAG, 1989, HOUSING NEEDS DETERMINATIONS, p. 79.

Housing Affordability, 1990

During the 1980's housing prices in the Bay Area went up much more than incomes, generally increasing the number of households unable to afford housing. However, Newark appears to have maintained its 1980 position as a place for housing for middle income households.

Table 5-18 shows current (February 1990) income limits issued by the Housing and Community Development Department for very low, low, moderate and above moderate households. The income limits vary with household size and the table lists the limits for one-, two-, three-, and four-person households. The maximum income to qualify as a "moderate income household" in Alameda County ranges from \$37,050 for a person living alone to \$52,900 for a four-person household.

Using the rule-of-thumb that households can afford to spend 30 percent of monthly income for housing Federal housing programs consider housing affordable if total monthly housing costs, *Table 5-18* also shows the maximum monthly payment a household at the limit of each income category can afford for housing. The table indicates, for example, that housing costing less than \$926 to \$1,322 a month is affordable to moderate income households.

**Table 5-18.
INCOME LIMITS (a) AND AFFORDABLE MONTHLY HOUSING COSTS (b)**

Number in Household	Maximum Income & Housing Cost	Income Categories (c)		
		Very Low	Low	Moderate
1	Income Limit	\$15,750	\$24,700	\$37,050
	Housing Cost	\$394	\$617	\$926
2	Income Limit	\$18,000	\$28,250	\$42,350
	Housing Cost	\$450	\$706	\$1,059
3	Income Limit	\$20,250	\$31,750	\$47,650
	Housing Cost	\$506	\$794	\$1,191
4	Income Limit	\$22,500	\$35,300	\$52,900
	Housing Cost	\$563	\$882	\$1,322

- (a) From California Department of Housing and Community Development, income limits for San Mateo County, February 1990.
- (b) Assumes affordable housing costs no more than 30 percent of monthly income.
- (c) Income categories are defined as percentages of median income: very low is less than 50% of median; low is between 50% and 80%; and moderate is between 80% and 120%.

The Argus, January 18, 1990 listed 38 units for rent in several categories. *Table 5-19* gives the average rents asked for units in each category. All the houses for rent had at least three bedrooms and all but one of the other units had two bedrooms. Thus, all the units would be considered suitable for two or more persons.

**Table 5-19.
RENTAL LISTINGS IN NEWARK, JANUARY 1990**

Category	Number Listed	Rents Asked	
		Range	Average
Houses	18	\$790-\$1,295	\$1003
Multiples	4	\$600-\$675	\$715
Condos/Townhouses	6	\$650-\$900	\$776
Apartments	10	\$525-\$900	\$667
Total	38	\$525-\$1,295	\$849

Source: THE ARGUS, January 18, 1990.

All of these units would be affordable to moderate income households and many would be affordable to low income households. However, few very low income households could find affordable housing in the market described by these listings.

Listings in October 28, 1989 of 21 single family home for sale, including both attached and detached units, show a range in asking price from \$101,000 to \$289,500 with an average of \$183,000. Assuming an average sales price of \$180,000 and a 30-year fixed rate mortgage at 10 percent on 80 percent of the sales price, the monthly mortgage cost for the average house would be \$1,264. According to the income guidelines, this is above the affordable range for most moderate income households.

Based on this analysis, it appears that in 1990, the real estate market in Newark is providing rental housing affordable to moderate and low income households, but that families seeking to buy houses need above moderate incomes. The market provides very little housing for very low income households.

Energy Conservation

An increasingly important component of housing affordability are monthly energy costs. Those on low and fixed incomes, and those living in homes which have not been weatherproofed are generally hardest hit. During the 1980's, Newark conducted a workshop on weatherization and insulation techniques and enforced new state energy standards for new development.

Non-Discrimination

The ECHO Housing Assistance Center handles discrimination complaints in Newark. In the year ending June 30, 1990, ECHO counseling services handled 19 fair housing complaints in Newark and 121 complaints regarding tenant-landlord problems. Problems with discrimination and tenant-landlord relationships persist, and to alleviate them Newark continues to support ECHO as part of an "Urban County" receiving funds through the federal Community Development Block Grant program.

Preserving Assisted Housing

As required by a 1989 addition to the housing element law, Newark has analyzed the need to preserve assisted housing. The only assisted housing project in the city is Newark Gardens, a 150 unit senior housing project operated by Satellite Senior Homes. All 150 units are protected by an Option and Development Agreement executed by the City on May 14, 1981. Paragraph 8 of the agreement states that "it is expressly understood that the Rosemont (now called Newark Gardens) project is to be constructed and operated for low and moderate income elderly, and the residents in the units shall be limited in age to those persons who qualify for the programs under the laws and regulations relating to the financing of the project by the Federal and/or State agency extending loans and/or subsidies for this purpose." Therefore, no program to preserve existing assisted housing in Newark is needed.

5.3 HOUSING NEEDS

Newark recognizes a responsibility for providing sites for a share of regional housing needs and also for meeting, to the extent possible, the special housing needs of Newark residents. The regional housing need is determined by ABAG and allocated to localities in the Bay Area. As Newark acts to meet its share of the regional need, the city tries to ensure that the units provided also meet the identified special needs of Newark residents.

ABAG Housing Needs Allocation

Under mandate from the state, ABAG allocates housing need to the localities in the San Francisco Bay Area. The recent allocation is for the period 1988-1995 and must be considered in the housing element. According to ABAG, Newark's housing needs by income category are as shown in Table 5-20.

If housing production continues in the 1990's at 288 units per year--the same rate as in the 1980's--Newark will have little trouble meeting the full housing need of 1,445 units as allocated by ABAG. Slightly over 200 units per year will need to be approved from 1990 to 1995 to meet the need. Under current development regulations and market conditions, many of the units will be affordable to moderate and low income households. The challenge for Newark is to develop programs to support provision of housing for very low income households. A large portion of this need for very low income households (608 units) is attributed by ABAG to housing needed to alleviate a projected imbalance of jobs and housing. This component of the housing need is shown in *Table 5-21*.

Table 5-20.
HOUSING NEEDS IN NEWARK, 1988-1995

Household Income	% Regional Median Income	% of Units	# of Units
Very Low	under 51%	20	289
Low	51-80%	14	202
Moderate	81-120%	22	318
<u>Above Moderate over</u>	120%	44	636
Total Housing Need		100%	1,445

Source: ABAG, January 1989, HOUSING NEEDS DETERMINATIONS.

Table 5-21.
PORTION OF HOUSING NEED TO IMPROVE JOBS/HOUSING BALANCE

Household Income	Percent	# of Units
Very Low	20	121
Low	14	85
Moderate	22	134
<u>Above Moderate</u>	44	268
	100%	608

As noted earlier, jobs and housing are currently well-balanced and will remain reasonably so through 1995. However, jobs are being created at a faster rate than housing units, and Newark is addressing this potential problem in revising its general plan. Significant parcels of land currently designated for industrial uses are being reclassified for residential uses or open space uses. The result will be fewer jobs than projected by ABAG, particularly in manufacturing and wholesale, the sector accounting for about half of the projected increase in employment.

Table 5-22 lists three sites totaling about 75 acres designated for industrial uses in the 1968 general plan that are being redesignated to residential or other uses. Assuming building coverage of about one-third of the land area, the 75 acres would be developed with about 1,089,000 square feet of industrial space. Manufacturing and warehousing uses typically require about 700 square feet per employee. Assuming this rate, about 1,556 jobs would be created with industrial development of the 75 acres.

Table 5-22 shows that the general plan changes will result in the loss of the 1,540 potential jobs coupled with a potential housing increase of 2,014 to 2,116 housing units. If the changes occur by 1995, the effect will be a 3,554 to 3,656 reduction in the difference between the number of jobs and number of households by 1995. Also, the general plan designates the 28 acre Inland Container site

at Cedar and Central for industrial use with an alternative designation of medium density housing. If the alternative is exercise, the 28 acres could accommodate 160 to 375 housing units.

Most of the remaining land in Newark classified for industrial uses is near San Francisco Bay. Some of this property contains wetlands and is proposed for inclusion in the San Francisco Bay National Wildlife Refuge. As development is proposed, the U.S. Fish and Wildlife Service will negotiate with the owners to determine what property should be included in the Refuge. This further reduces the development potential of industrial lands in Newark.

Table 5-22.
INDUSTRIAL SITES OVER 10 ACRES REDESIGNATED TO OTHER USES

Property	Zoning	Acres	Potential Jobs*	1990 General Plan	Current Status	Potential Units
1. W. end of Wells	NG	13	267	Med. Density Residential	developed industrial	78-180
2. Sycamore & Carter	PUD/CUP	12	246	Med. Density Residential	vacant; apartments approved	336
3. Area 4, near land fill	PUD/CUP	50	1,027	Residential, Open Space Recreation	proposed as part of golf course; executive home project	2,700
Total		75	1,540			3,114-3,216

* Jobs are calculated assuming building coverage of 1/3 of the industrial sites and 700 square feet per employee for warehouse and manufacturing uses. These rates are from: Naphtali Knox and Associates, memoranda, January 12, 1990 and January 25, 1990.

Special Housing Needs

State law requires that the housing element address the special housing needs of the handicapped, elderly, large families, female-headed households, farmworkers, and the homeless.

Handicapped

As shown in *Table 5-23*, 1,377 Newark residents, between the ages of 16 and 64 had handicaps in 1980 which limited their ability to work and 137 had handicaps which limited their ability to use public transportation. Subtracting the 120 people who had both disabilities, Newark had 1394 handicapped people between 16 and 64 years old. In addition, approximately 15 percent of people 65 and older are handicapped in some way (based on national health survey reported in conversation with Ellie Huffman, California Department of Aging, May 14, 1982). Using this rule-of-thumb, approximately 155 of Newark's residents over 64 years old were handicapped in 1980, for a total handicapped population of 1,549.

Services for the disabled and handicapped in Alameda County are coordinated by Bay Area Community Services, the umbrella agency for the Irvington Creative Living and the Serra Centers in Fremont. The Irvington Center provides day care for the mentally disabled. Of its 11 clients last year, 9 were from Newark. The Serra Center is a group home for the developmentally disabled.

These centers serve the Tri-Cities. Staff at the Irvington Creative Living Center indicate a need within the region for additional group homes, particularly for mentally disabled men, and transitional housing to prepare disabled people for independent living.

Table 5-23.
DISABILITY STATUS OF NEWARK RESIDENTS 16-64 YEARS OLD, 1980

	Number	Percent
Work Disability	1,377	6.4
Public Transportation Disability	137	0.6
<u>Work and Public Transportation Disability</u>	<u>120</u>	<u>0.6</u>
Total Residents 16-64 Years	21,361	

Source: U.S. Census, 1980.

Elderly

In 1980, only 1,033 (3.2 percent) of Newark residents were over 64 years old. The 1983 housing element identified about 120 elderly homeowners and 54 elderly renters as needing housing assistance. In 1983 Newark donated 3.5 acres of city-owned land at Cedar Avenue and Newark Boulevard to Satellite Senior Homes, a non-profit housing developer. Satellite Senior Homes used Section 202 financing and Section 8 subsidies to build the 150-unit Newark Gardens project serving low income senior citizens. The development of this one project came close to meeting the identified need for senior housing based on 1980 census data.

Since 1980, the percentage of people over 64 in Newark has undoubtedly increased, adding to the housing need for elderly people. Newark's Human Services Division estimates that approximately 4,700 or almost 12 percent of the population is now over 55. Satellite Senior Homes is now asking to expand Newark Gardens by adding 50 units on an adjacent 1.3 acre parcel owned by the city. In November 1990, voters approved the proposed expansion, but construction of the project is contingent on Satellite Senior Homes meeting City Council conditions for approval and obtaining financing. Six other potential sites for senior housing have also been identified by the City Council; all are listed in Tables 24 and 25 as potential housing sites.

Large Families

In 1980, 332 households were identified as large families needing housing assistance. Because even the multifamily units in Newark usually have two or three bedrooms, the housing stock is more suited to large families than in other communities. Large families on limited incomes tend to come to Newark because more space can be rented or purchased at a monthly cost they can afford than in other nearby communities.

Female-headed Households

According to the 1980 census, Newark had 880 households headed by women, 648 of them with a total of 1,184 children. This is 9.5 percent of the households compared to 11.9 percent for Alameda County. Households headed by women typically have lower incomes than male-headed households and often have difficulty competing in the housing market. In part, the fact that housing suitable for families is less costly in Newark than in many other cities in the south Bay Area, brings single-parent households to Newark. By providing for small lot detached and attached three-bedroom units, both for sale and for rent, Newark helps to meet the special needs of this group for housing.

Farmworkers

A small, but unknown, number of farmworkers reside in Newark, but the city does not know their location. The city does not know of any special need for farmworker housing.

Homeless

Alameda County Emergency Services Network estimated that there were 250 homeless people in Newark in fiscal year 1989-90. A nonprofit corporation, Second Chance, Incorporated, operates an emergency shelter located on Cherry Street in Newark and owned by the city. This is the only emergency shelter, supported with public funds, serving southern Alameda County including Newark, Fremont, and Union City. With funds from Newark, Alameda County and other sources, Second Chance offers emergency shelter for a maximum of 7 nights to up to 15 people a night.

In the 1989-90 fiscal year, Second Chance sheltered a total of 894 people for an average of 6.7 days. About 30 percent of those sheltered claimed Newark as place of residence. Almost 90 percent sought shelter because they had no place to live; the other 10 percent came for a variety of reasons, including domestic violence, house burned, and eviction.

Limited referral service is offered at the shelter. About one-third of the people requesting assistance are being turned away because of insufficient beds. Newark city staff assisted in writing grant proposals for federal and state funds to expand the center, doubling its capacity to 30 beds. The project was funded and approved by the city, and construction is now complete.

The Tri-Cities Homeless Coalition, serving Newark, Fremont and Union City, is a local coalition of churches to provide emergency shelter for the homeless. The coalition maintains 60 emergency beds at two churches. One church, with 30 beds, is in Newark.

The Newark Human Services Division recognizes a need, as yet unquantified, for transitional housing, but has no program in place to address this need. The Human Services Division has been in existence for only 2 years during which a senior center was opened, funds to expand the emergency shelter obtained, and numerous other programs initiated. Transitional housing will be addressed in the future, but in the meantime, the city presents no significant constraints to the provision of transitional housing by private, non-profit organizations.

5.4 SITES AVAILABLE FOR HOUSING

At the time the 1983 housing element was prepared, Newark had 28 sites consisting of 290 acres of land available for residential development including two surplus school sites, land in a redevelopment area, and a cancelled agriculture preserve. All but 8 acres were expected to be developed by 1990, providing a total of about 3,460 units. In fact, all but 7 of the sites and some scattered lots in Historic Newark were developed, adding a total of 2,882 housing units. Development on many of the others occurred at higher densities than anticipated in the element.

The remaining sites plus other vacant parcels suitable for housing, including former industrial sites that have been redesignated for residential uses, are listed in *Table 5-24*. The table indicates that Newark has about 510 acres of vacant land suitable for housing with a capacity under current proposals and regulations of about 2,631 units. Most of the necessary infrastructure is in place for all of the parcels and they all could be developed or approved for development by 1995.

Specific conditions pertain to the development of some of the sites listed in *Table 5-24* as follows:

1. A.O. Smith estimates they will begin construction of 336 apartment units by mid- to late 1992. The final stage of hazardous materials cleanup is underway.
2. The 0.4 acre parcel at Purity Plaza is zoned commercial with an option to convert to residential at some future time when commercial use is no longer viable. The maximum density permitted in the high density residential zone is 30 units per acre.
3. Any development of the Robertson site would be under the planned unit development process.

Table 5-24.
VACANT SITES AVAILABLE FOR RESIDENTIAL DEVELOPMENT, 1990-1995

<u>Location</u>	<u>Zoning</u>	<u>Acres</u>	<u>Potential Units</u>	<u>Status</u>
1. Willow & Thornton	PUD/CUP	30	144	single family detached approved
2. Willow & Thornton at Chestnut	PUD/CUP	5.2	44	designated low density residential; possible senior housing site
3. Jarvis & Haley	A	1.5	15	no proposal; 10/acre assumed
4. Area 6, Mayhews Landing	O	45	300	proposed single family detached on 45 acres; 80 acres to open space
5. Newark & Bellhaven Purity Plaza	CPA	.4	12	vacant commercial parcel in shopping center; potential senior housing site. At 30 units/acre, would support 12 units.
6. Robertson near Honeysuckle	RS-7000	6.5	40	40 units at current single family zoning; possible senior site with higher density
7. Smith & Cedar	PUD/CUP	7	90	lots assembled
8. City property Newark Blvd & Cedar	PUD/CUP	1.3	50	city is in negotiation with Satellite Senior Homes to expand Newark Gardens
9. A.O. Smith Carter & Sycamore	PUD/CUP	12	336	apartment project approved
10. Area 4	A	400	2,700	proposed golf course and executive home development
Totals		508.9	3,731	

Source: Newark Development Services Department, 1983 Housing Element and general plan studies.

All but 110 of the residential acres and well over half of the potential units are in Area 4 in southwestern Newark. General plan revisions for this area call for a golf course combined with single family homes aimed at the high end of the market which presently does not exist in

Newark. Many of the other 935 potential units would be multifamily and targeted to other segments of the market. Development in Area 4 will require the approval of federal, state, and regional agencies. The General Plan Update recommends preparing an area plan and a specific plan outlining more specific development policies and regulations for this area. Work has not begun on either of these plans.

In revising the general plan, Newark has increased the supply of land available for housing by planning for the reuse of currently developed land. Some industrial and commercial parcels are being redesignated for residential uses, some commercial areas are proposed for mixed commercial-residential uses, and the allowable density is being increased in some residential areas. Sites planned for redevelopment with a potential for adding housing are listed in *Table 5-25*.

Table 5-25.
SITES WITH POTENTIAL FOR REUSE FOR HOUSING

<u>Property</u>	<u>Zoning</u>	<u>Potential</u>		<u>Status</u>
		<u>Acres</u>	<u>Units</u>	
1. West of Wells below Spruce	ML	13	78-180	industrial area redesignated medium density residential; potential senior housing site.
2. Filbert & Wells	CG	4	60-120	heavy commercial area redesignated high density residential.
3. Filbert near Wells	CG	1	7-15	construction yard redesignated for medium density residential.
4. Lido Faire	CC-SC	4-5	75-150	15 acre shopping center with overlay permitting housing. Plan recommends high density on 4-5 acres; potential senior housing site.
5. Historic Newark		14	25-75	mixed-use commercial area with housing permitted behind or over stores. Unit count is rough estimate.
6. Historic Newark		15	187	net increase in potential units resulting from increasing medium and high density areas by 15 acres in Historic Newark. Unit count does not account for potential density bonuses.
Total		51-52	432-727	

Source: Newark Development Services Department, general plan studies, area plans for The Four Corners and Historic Newark.

Newark has about 50 acres designated for reuse to residential uses or higher density residential uses. Reuse could provide for 432 to 727 housing units. Private reuse is a slow process and the city does not expect many of these sites to be converted wholly or partly to residential use by 1995.

However, as the supply of vacant land diminishes, the city will be relying more and more on the reuse process to provide additional housing. The city's analysis shows that more than enough land is available to meet the housing need in all income categories as allocated by ABAG through 1995.

5.5 CONSTRAINTS TO HOUSING DEVELOPMENT

State law requires that housing elements consider government and non-government constraints to the provision of housing and indicate what actions local governments will take to remove the identified constraints.

Government Constraints

The requirement to identify government constraints to providing housing is based on the notion that the lack of affordable housing is partly caused by restrictive local land use policies and regulations that limit the supply of land available for housing. In Newark, government constraints to not appear to limit sites available for housing.

However, some policies do limit the ability to provide affordable housing. As noted, Newark has traditionally provided housing in the middle-cost range. To increase diversity in the community, Newark's general plan encourages development of more expensive housing as well as housing affordable to low and very low income households. A major theme in the plan is the need to enhance the quality of existing and new development in Newark. This effort sometimes means higher rents and costs for housing. As part of the general plan revision process, Newark has been reviewing all aspects of development and development regulation to reach a workable balance between sometimes conflicting goals.

Land Use Controls

Land use controls do not constitute a serious constraint to housing development in Newark. The city's attitude has been to foster development where it is consistent with general plan policies. The general plan provides for a variety of housing types and densities to meet the needs of all economic segments of the community. Lot size, setbacks, on-site parking and other zoning requirements in Newark are quite typical. When flexibility is needed, planned-unit-development regulations are used. Under PUD's several small-lot and attached-single family developments were approved during the 1980's, providing much needed housing for first-time purchasers in the Bay Area. Additional changes to encourage housing development are described in the programs. The adopted development standards are contained in the Newark zoning, subdivision and other land use regulations established in conformity with the provisions of the General Plan.

Codes and Enforcement

Newark applies the 1988 Uniform Building Code. No extraordinary building requirements are imposed and enforcement is according to the code. Newark does not have a code enforcement program to bring about the rehabilitation of substandard property, but enforces building regulations on a complaint basis.

On- and Off-site Improvements

Newark's requirements for on-site improvements are typical of other communities in the area. Off-site improvements are negotiated with prospective housing developers and can sometimes include street improvements, contributions for community recreation, and other amenities benefitting the the entire community as well as the residents of the project. Because the housing market has been so strong, developers have been willing and able to make substantial contributions to the city's

infrastructure. The city is reviewing its practices regarding off-site improvements as part of studies to implement the general plan.

Fees and Exactions

Table 5-26 gives the current schedule for development fees in Newark. The fees are comparable to those in other nearby cities.

Table 5-26.
SELECTED DEVELOPMENT FEES

Subdivisions

Preliminary Development Review	no fee for 2; \$350/ review after 2
Tentative Tract Map	\$1,200 plus \$30/lot or unit
Tentative Parcel Map Check	\$500 plus \$30/lot
Record Map Check	\$500 plus \$30/lot

Zoning

Rezoning Application	\$2,000
Application to Add Permitted Use	\$700
Use Permit Application	\$1,000
Planned Unit Development Applications	\$1,200 plus \$30/unit
General Plan Amendment	\$2,000 plus

Building

Building Permits	based on 120% building valuation as set by ICBO
Grading Permits	based on number of cubic yards

Source: City of Newark, Resolution 6023, Exhibit A

Processing and Permit Procedures

The city has a design review process. This does not delay or add significantly to the cost of housing projects, but it does result in more livable and attractive development. A typical subdivision needing only a negative declaration can be processed in one and a half months in Newark. If an EIR is needed, the process will take about 6 months.

Non-Government Constraints

In Newark, the most significant constraint to providing sites for housing in the long run is that land available for new development is running out. Newark has available sites to meet its share of the regional housing need for 1990 to 1995, but in the process will exhaust most of its capacity to provide for housing beyond 1995.

Creating opportunities for affordable housing is constrained primarily by the private real estate market which seems unable to provide housing at costs affordable to an increasingly large segment of the area's population. The lack of effective federal and state housing subsidy programs also severely constrains local government's options to deal effectively with the problem.

Availability of Financing

Financing for home construction, purchase or repair is available on equitable terms from private lenders for all parts of Newark.

Price of Land

Land costs are rising in Newark as the amount vacant, developable land decreases. However, land costs here are not greater than in other areas of Alameda County or the Bay Area.

Cost of Construction

Construction costs continue to go up, sensitive to changes in the costs of materials, labor and financing. However, these costs in Newark are no higher than in other areas of Alameda County or the Bay Area.

5.6 EVALUATION OF 1983 HOUSING ELEMENT

The previous Newark housing element, prepared by ABAG, was adopted in June 1983, but not submitted to HCD for review. The element had seven goals, each accompanied by a series of policies to guide decisions and programs to be implemented from 1980 to 1985. Quantified objectives were included for some of the goals. These goals and policies are still considered basically appropriate and effective in contributing to the attainment of state housing goals and Newark's housing goals.

During the 1980's, substantial progress was made in implementing the policies and programs and many of the quantified objectives were met. The seven goals of the 1983 housing element are listed below along with a summary of key objectives, both quantified and unquantified, and statement of progress since 1983.

GOAL 1. Promote throughout the city a mix of housing types responsive to household size, income and accessibility needs.

Objectives

- o Construct 1,804 units distributed by income category as follows:

53% above moderate	956 units
13% moderate	235
11% low	198
<u>23% very low</u>	<u>415</u>
	1,804 units

- o Keep ratio of owner-occupied to rental units at about 77/23.
- o Develop 150 units of Section 202/8 housing for elderly and handicapped.

Progress Since 1983

As shown in Table 11, by 1988, Newark had more than met its overall housing production goals. Disregarding the loss of 2 mobile homes, Newark added 2,070 housing units from 1980 to 1988. During this period, housing construction in Newark was marked a significant shift from detached single family houses to denser residential development, particularly townhouses and multifamily

development of 5 units or more. Greater choice in housing type was available in 1988 than in 1983. The new multifamily complexes are accessible to the handicapped as required by state law.

The success in achieving greater mix in housing types stemmed in part from using the PUD designation, flexibility in the zoning ordinance and review procedures to permit increases in density and small lots for development of attached single family houses. The city also allows manufactured housing and housing components.

Available information, summarized in the section "Housing Affordability, 1990" indicates that Newark probably maintained or increased the percentage of rental units in the city and met its objectives for moderate and low income housing units. The two largest apartment complexes built during this period, Summerhill Commons and Alderwood Park, have a total of 280 units with rents ranging from \$675-\$685 for a one bedroom unit to \$785-\$835 for a two bedroom unit. Some three bedroom, two bath units are available for \$820 (personal communications, October 1990). These rents are affordable to almost all moderate and many low income households with one to four persons (see Table 18).

Newark may not have met its objectives for above moderate income housing and for very low income housing. Most of the very low income housing was provided at Newark Gardens, 150 units of low and very low income housing for seniors, supported by Section 202 and Section 8 federal subsidies. Additional Section 8 units were provided in the City ranging from 121 in 1983 to 148 in 1990. Without federal or state funds for subsidies, Newark will have a difficult time providing housing for very low income households. The programs in this element are designed to ensure that sites will be available and suitably zoned for housing to meet this need.

GOAL 2. Encourage, where possible, the exercise of city legal powers to participate in providing affordable housing opportunities.

Objectives

- o Issue joint mortgage revenue bond with Pleasanton for \$40,000 to benefit 200-450 moderate and middle income home buyers.
- o Develop housing on a surplus school site with Eden Housing, Inc, for low and moderate income families.
- o Issue redevelopment bonds for commercial and residential development and rehabilitation in Historic Newark.

Progress Since 1983

From 1983 to 1985, Newark participated in an Alameda County program to use mortgage revenue bonds to reduce long-term interest rates for first-time home purchasers. Several homes in Newark were purchased with the aid of bond funds (Alameda County records are in storage; the exact numbers are not available). The joint program with Pleasanton did not go forward, and since 1985, mortgage revenue bonds have not been used because of market conditions.

The project with Eden Housing did not go forward, but housing was developed on the two surplus school sites. The redevelopment plan for Historic Newark was rejected by the voters in 1984. An area plan and implementing ordinances have been prepared for Historic Newark to encourage private redevelopment efforts. The area plan will be adopted as part of the general plan and the ordinances will be adopted soon thereafter.

During the 1980's two ordinance changes were adopted that increased opportunities for housing development in the city.

1. **Second Units.** In the mid-1980's, Newark adopted an amendment to the zoning ordinance to permit second dwelling units as a conditional use in all single family residential districts. Second units are permitted on lots which exceed the minimum size for the zoning district by 30 percent and can be no larger than 275 square feet, unless the main house is 2,750 square feet or larger. Very few second units have been built under this provision. Few single family parcels in Newark exceed the minimum size by 30 percent and few houses are as large as 2,750 square feet. Not many existing single family parcels can accommodate second units without adverse impacts on the neighborhood.
2. **Manufactured Housing.** Newark permits manufactured houses, as a conditional use, in all residential zoning districts. A manufactured housing project is currently under construction.

GOAL 3. Encourage and preserve the compatibility of land uses and orderly transition of densities as they relate to the preservation, development, and redevelopment of neighborhoods and homes.

Objectives

- o Retain existing multifamily zoning
- o Study feasibility of mixed uses
- o Discourage conversion of residences to other uses.

Progress Since 1983

The general plan studies started in 1983 and about to culminate in the adoption of a new general plan and implementing ordinances have accomplished this goal and the three objectives.

GOAL 4. Conserve and upgrade the existing housing stock.

Objectives

- o Execute 50 housing rehab loans for low and moderate income households.
- o Keep at least 122 Section 8 recipients in Newark.

Progress Since 1983

Newark participates in Alameda County subsidized loan programs funded with Block Grants including the "mini loan" program providing rehabilitation loans up to \$3,000 to low income households and the "minor home repair" program providing loans up to \$500 also to low income households.

As of September 1990, Newark had 148 Section 8 rent subsidy recipients. All are low income. This number has not changed significantly in the last few years and no changes are anticipated as long as federal funding levels are maintained. Many of the housing units available to very low income households in Newark are provided through the Section 8 program.

GOAL 5. Promote energy conservation in the design of new and rehabilitation of existing residential units.

Objectives

- o Hold workshop with ABAG for city staff and public officials on latest state standards.
- o Hold two energy conservation workshops for local citizens.

Progress Since 1983

The workshop for city staff was held; the two workshops for local citizens were not. The building department reviews all building plans for appropriate and required energy conservation measures.

GOAL 6. Strive for equal housing opportunity and access for Newark citizens regardless of race, ethnicity, religion, sex, income, disabilities, marital/family status, or family composition.

Objectives

- o Maintain current funding levels to support ECHO Housing Service Center.

Progress Since 1983

Newark continues to support ECHO through its participation as a member of the "urban county" receiving CDBG funds.

GOAL 7. Facilitate citizen understanding of the goals, policies, programs and quantified objectives contained in the city's housing element.

Objectives

- o Hold workshops and public meetings to encourage public input on housing issues.

Progress Since 1983

The section, "Public Participation" describes Newark's efforts to ensure that the public is informed about housing issues and has an opportunity to participate in public decisions regarding housing issues.

5.7 GOALS, POLICIES, PROGRAMS AND QUANTIFIED OBJECTIVES

The housing element deals primarily with the problems of providing housing opportunities for households with limited incomes or other problems, such as physical handicaps or old age, that make it difficult to compete in the housing market. However, all the standards pertaining to residential land use apply to the housing element. Newark intends to provide for lower cost housing while at the same time maintaining good design and livable housing conditions. In fact, a major goal of the city is to improve the quality of both existing and future housing design and construction in the community.

Goals, policies and programs are described below. Wherever relevant, quantified objectives are summarized after the program descriptions. Most of the programs will be implemented as soon as possible after adoption of the general plan by the City Council. (Adoption will occur immediately after the Environmental Impact Report on the Plan has been completed, tentatively scheduled for early spring 1992.)

GOAL 1. Provide housing opportunities for households with a wide range of incomes and special housing needs.

Policy a. Continue to provide for affordable housing through flexible application of subdivision and zoning standards.

Program 1. Using the planned unit development designation to ensure good overall project quality, allow smaller lots, smaller setbacks, reduced parking, and

other relief from development standards in order to encourage provision of lower cost housing.

Quantified Objective, 1990-95. Most large residential projects will be handled under the PUD regulations, perhaps 500 units between 1990 and 1995. A PUD for the 336-unit apartment project on the A.O. Smith site has already been approved.

Program 2. To encourage reuse and rehabilitation of older residential areas in Historic Newark, the city will adopt a density bonus system which provides incentives for a developer to assemble parcels for larger-scale residential projects. Rezoning to higher densities several years ago failed to produce significant increase in the area's density. The city expects the density bonus provisions will spur private actions leading to new development in the area.

Quantified Objective, 1990-95. Several hundred additional units are possible under this program, but the actual result depends on private decisions. The city anticipates that 50 to 100 bonus units will be created between 1990 and 1995.

Program 3. As required by state law, provide a 25 percent density bonus and an additional incentive, or financially equivalent incentive(s), to a developer agreeing to construct at least 20 percent of the units for lower-income households, or 10 percent of the units for very low-income households, or 50 percent of the units for senior housing.

Quantified Objective, 1990-95. Developers might qualify for 20 to 40 bonus units for senior housing. The city does not expect most developers of the remaining residential lands to qualify for or request this bonus.

Program 4. Continue to permit manufactured housing, as a conditional use, in all residential zones in the city.

Quantified Objective, 1990-895. Construction of 19 units in a project currently under construction.

Program 5. Review policies and procedures concerning development exactions and make changes as needed to be certain that these costs are not a barrier to the provision of affordable housing.

Policy b. Through the design review process, consistently apply high standards of design to all residential construction. In both multifamily and single family projects, require amenities designed to attract households with higher incomes, while at the same time ensuring income diversity within each multifamily project through adherence to Program 1.

Program 6. Continue using the design review process and applying design standards. Evaluate and revise the system as needed based on experience.

Policy c. Coordinate with Alameda County in seeking ways to reduce the cost of housing, particularly for first-time home buyers.

Program 7. Continue to participate in the program administered by Alameda County to use bond state funds for issuing mortgage credit certificates to help low and moderate income families purchase their first home. The holders of certificates receive a federal income tax adjustment thereby increasing their take

home pay and allowing them to qualify for larger mortgages. The program has been in operation since August 1989 and since that time 14 certificates have been issued to purchase homes in Newark.

Quantified Objective, 1990-95. Issuance of 14 certificates per year, or 70 by 1995. This level of activity is contingent on continued federal and state funding.

Policy d. Seek development of housing designed for and affordable to Newark's elderly residents.

Program 8. Donate city-owned land adjacent to the Satellite Senior Housing project to allow a 50-unit expansion of Newark Gardens. All 50 units would be affordable to low and very low income seniors. (The Newark Gardens application to HUD was denied. The application will be resubmitted for funding in 1992.)

Quantified Objective, 1990-95. Construction of 50 units affordable to low income senior citizens.

Program 9. Seek nonprofit developers to build senior housing on one or more of the other six sites identified as appropriate in Tables 5-24 and 5-25.

Quantified Objective, 1990-95. Approval of one additional project, probably at the Lido Faire site with 75 to 150 units, not including possible bonus units allowed under Program 4.

Policy e. Assist as possible in providing suitable housing for physically and mentally handicapped people.

Program 10. Continue to enforce all federal, state and local regulations regarding accessibility for the handicapped in multifamily projects.

Program 11. Continue to permit group homes designed for handicapped persons to live independently in all residential zones.

Quantified Objective, 1990-95. Approval of 1 group home for 6 to 10 handicapped persons.

Program 12. Support the use of available State and Federal funds for group homes and transitional housing to help mentally and physically disabled people to live independently. Continue to support the use of Section 8 rent supplements by residents of Newark Gardens.

Policy f. Provide shelter for the homeless.

Program 13. Expand the Second Chance emergency shelter for the homeless from 15 to 30 beds. This project is now nearing completion.

Quantified Objective, 1990-95. Addition of 15 emergency shelter beds.

GOAL 2. *Seek to Balance Housing and Job Growth in Newark.*

Policy a. Provide opportunities for mixed developments incorporating housing into commercial and industrial areas.

Program 14. Adopt a mixed-use commercial zone as part of the zoning ordinance to be applied to establish the conditions under which housing may be incorporated into commercial areas. The zone will initially be applied to the Thornton Avenue business district in Historic Newark to encourage housing in upper stories of commercial buildings and behind commercial storefronts. The city expects that such units will be small. Most should be affordable to those with moderate or lower incomes.

Quantified Objective, 1990-95. All sites will be available; perhaps 5 to 10 units will be constructed.

Program 15. Provide for residential use as an option on all or part of selected commercial parcels. The parcels include the Lido Faire shopping center site and Purity Plaza.

Quantified Objective, 1990-95. Construction of 75 to 150 units of senior housing on 4 to 5 acres of the Lido Faire site.

Policy b. Based on studies done as part of the general plan update, increase the amount of land designated for residential use and the number of units that may be built in selected residential areas.

Program 16. Redesignate industrial land to residential and open space land uses and initiate rezoning of the three industrial sites listed in Table 22. Redesignate and rezone for residential uses other industrial and commercial sites listed in Table 25.

Quantified Objective, 1990-95. Redesignation of at least 75 acres with potential housing capacity of 2,014 to 2,116 units.

Program 17. Rezone areas designated in the Historic Newark Area plan for higher density residential uses and adopt density bonus provisions (see Program 3) to encourage large, high density projects.

Quantified Objective, 1990-95. An increase in capacity of 187 units, exclusive of bonus units permitted under Program 3.

GOAL 3. *Conserve and up-grade the existing housing stock.*

Policy a. Assist homeowners to maintain their homes and to bring substandard units up to building code standards.

Program 18. Continue to participate in the Alameda County housing rehab program funded with Community Development Block Grant Funds. The highest number of loans in recent years was 6 loans in 1984-85.

Quantified Objective, 1990-95. Encourage Alameda County to obtain approval of 5 rehab loans per year or 25 in the five years.

Program 19. Continue to participate in the "mini loan" and "minor home repair" programs administered by Alameda County. Alameda County's 1990-91 program budgets four \$3,000 mini loans and twenty \$500 minor home repair loans in Newark.

Quantified Objectives, 1990-95. Continuation of 1990-91 rates for a total of 20 mini loans and 100 minor home repair loans

Program 20. Continue to require efficient energy design and construction of all new residential projects and major rehabilitation projects.

GOAL 4. *Insure a choice of housing types and locations to all persons regardless of race, sex, cultural origin, age, marital status, physical handicaps, or family composition.*

Policy a. Encourage and support on-going programs to eliminate discrimination in housing and to resolve conflicts between tenants and landlords.

Program 21. Work with ECHO Housing Services to address identified problems of discrimination in the housing market in Newark. Use ECHO's services to handle complaints and provide counseling. Also work with ECHO Housing Services to provide information and counseling to resolve tenant-landlord disputes.

Chapter 6. OPEN SPACE AND CONSERVATION

Chapter 6. OPEN SPACE AND CONSERVATION

6.1 INTRODUCTION, PURPOSE AND RELATIONSHIP TO OTHER CHAPTERS

This chapter deals with the preservation and conservation of the natural resources of the Newark community. The City's open space system is defined and the conservation factors established. Visual resources, including the relationship of open to developed areas are addressed. Goals, policies and programs are set forth for open space and conservation. While the role of recreation lands in the open space system is identified, the components of the recreation system are described in Chapter 7, *Recreation*. Further, other elements of the open space system that are identified in this chapter (e.g., Cargill Salt crystalization ponds, arterial road corridors, etc.) are described in greater detail in the Land Use and Transportation Chapters. Where this is the case, reference is made to the chapter where the element is more fully described.

6.2 THE OPEN SPACE SYSTEM

State Government Code Section 65560 defines open space as "*any parcel of land or water which is essentially unimproved and devoted to an open space use for the purposes of: (1) preservation of natural resources; (2) managed production of resources; (3) outdoor recreation; and (4) public health and safety.*" This plan provides for a system of open spaces to provide relief from urbanization, access to natural areas, and the ability to travel along landscaped corridors within the City that provide a feeling of openness.

Much of the open space in the Newark area is made of open lands along the eastern edge of San Francisco Bay. Some of these lands are within the boundaries of the San Francisco Bay National Wildlife Refuge; and, therefore under public control. Others are in private ownership, the largest single holding being the lands and facilities of Cargill Salt Company. Cargill Salt has continuously cooperated with the City in terms of planning for the future use of its lands, and most of its lands, i.e., Area 5b as described in the Land Use chapter of this plan and shown on the Plan Diagram as open space, will remain in open space during the plan period. These lands will continue to be used for harvesting and production of salt, and are designated as open space for the managed production of resources.

Other privately held open lands along the western boundary of the City are proposed for more intensive development as shown on the Plan Diagram and described in the Land Use chapter. However, it is recognized that development of some of these lands will also be constrained by the presence of wetlands. It is City policy that all identified wetlands be preserved, however, the City has also determined that the identification of wetlands is primarily a matter between the private property owner and the federal agencies charged with administration of wetlands regulations and programs. Therefore, this plan contains policy for land development with greater intensities than may ultimately be possible. All private property owners whose lands are potentially constrained by wetlands limitations are encouraged to complete early negotiations with the appropriate federal agencies so that any development projects they may wish to pursue with the City can move ahead in a reasonable time frame and not be limited by wetlands uncertainties.

In addition to the lands of the SFBNWR, and wetlands areas, the Newark open space system includes the park areas described in Chapter 7 and the roadway and transit corridors identified in the Transportation Chapter. Another functional part of the Open Space system is the portions of private property that are restricted from building by typical zoning setbacks. These areas help

ensure that land will not be overcrowded and that even within developed areas people will have some direct access to open areas and relief from the works of man.

All of the above open space features combine to establish the Newark open space system. While in many cases the spaces are not physically linked, they do provide a continuous feeling of openness throughout Newark and will be preserved and enhanced as land use changes occur within the City.

The following open space resources are described in detail because of their particular and unique contributions to the Newark open space system.

Wetlands

Much of the undeveloped, private land in Newark is located in the southwestern portion of the City. While this area has not had detailed site surveys, it is believed that much of the land may contain wetland habitat. Wetlands include marshes, bogs and swamps that host specific types of plants that in turn provide habitat for birds and animals. Indications of this type of habitat include the documented presence of both fresh and salt water marshes, as well as sitings of pickleweed, and the Salt Marsh Harvest Mouse, a federally listed endangered animal species. Proposals for any development in these areas would be required to undertake detailed on-site surveys for wetlands, provide mitigation for any potential impacts to identified habitat and enter into long term maintenance agreements to ensure protection of the wetlands. Governmental agencies that have jurisdiction pertaining to wetlands include the U.S. Army Corps of Engineers, U.S. Fish and Wildlife, California Department of Fish and Game and the Bay Conservation and Development Commission. In addition, the Bay Conservation and Development Commission (BCDC) has instituted Salt Pond Policies and a Wetlands Management Program which could be applied to these areas. The BCDC 100-foot shoreline band does include areas within the City of Newark along the Mowry and Newark Sloughs and Plummer Creek.

Agricultural Land and Agriculture and Soils

Two parcels within the City limits have been designated by the U.S. Department of Agriculture, Soil Conservation Service, as *Urban Prime Agricultural Lands*. These are Area 6 and a 90-acre parcel to the west of Stevenson Boulevard in Area 4. The remaining undeveloped parcels in western and southwestern Newark, which include over 3,310 acres, are listed by the Soil Conservation Service as being Open Space of Statewide Significance. Many of these parcels are currently under Williamson Act contracts which limit their ability to be developed for a minimum of 10 years, and/or may be impacted by the presence of wetlands.

Reduction of viable agricultural lands is often a consequence of urban expansion. While a small portion of the City's vacant lands are actively farmed in cultivated crops, most are used as salt storage ponds. As noted above, the salt production lands will remain in this use during the plan period and, therefore, are designated for open space on the Plan Diagram. The other agricultural uses are very minor and are not considered economically significant. The City encourages the continuation of agricultural uses as long as possible, but has provided for more intensive land use designations (see Land Use chapter) where other needs are more significant, particularly housing .

Some lands currently used for agricultural purposes and under the limits of a Williamson Act contract, are designated for higher intensity uses on the Plan Diagram. If any of these parcels are actually proposed for urban development, their Williamson Act Contracts must be cancelled. Cancellation continues to prohibit development for nine years following the date of cancellation.

Visual Significance

Figure 6-1 shows the areas and elements of visual significance in Newark. Visual significance refers to those qualities of a city that define its image. Those areas of Newark that establish its visual significance can be referred to as: *edges, gateways, pathways* and *nodes*. Three edges of Newark, the Dumbarton Freeway, I-880 and Stevenson Boulevard are strong and easily defined. Salt ponds and the wildlife refuge form the fourth edge. The edges of a city reinforce the sense of place for the residents. Newark's strong edges help distinguish the City from other cities in the bay with less well-defined boundaries.

Gateways are the entries to communities, usually located at the intersection of the city limits and major arterials, and they project the image that a city wishes to present to the world. The gateways into a city can further reinforce a community's identity, and, if they are unique they will help distinguish the city within an otherwise amorphous metropolis. Because Newark has strong edges, there are fewer entries into the City most of which could be referred to as gateways. The five major gateways into Newark are:

NEWARK'S MAJOR GATEWAYS

Thornton Avenue between the Dumbarton Freeway and Jarvis Avenue
Newark Boulevard between Dumbarton Freeway and Jarvis Avenue
Thornton Avenue between I-880 and Cedar Boulevard
Mowry Avenue between I-880 and Cedar Boulevard
Stevenson Boulevard between I-880 and Balentine Drive

Pathways are those routes through a community that are used most frequently. In traffic terminology they could be referred to as arterials. The impression that residents form of their city are based on the appearance of the structures and the aesthetics of the development along the pathways. There are eight major pathways through Newark as listed below:

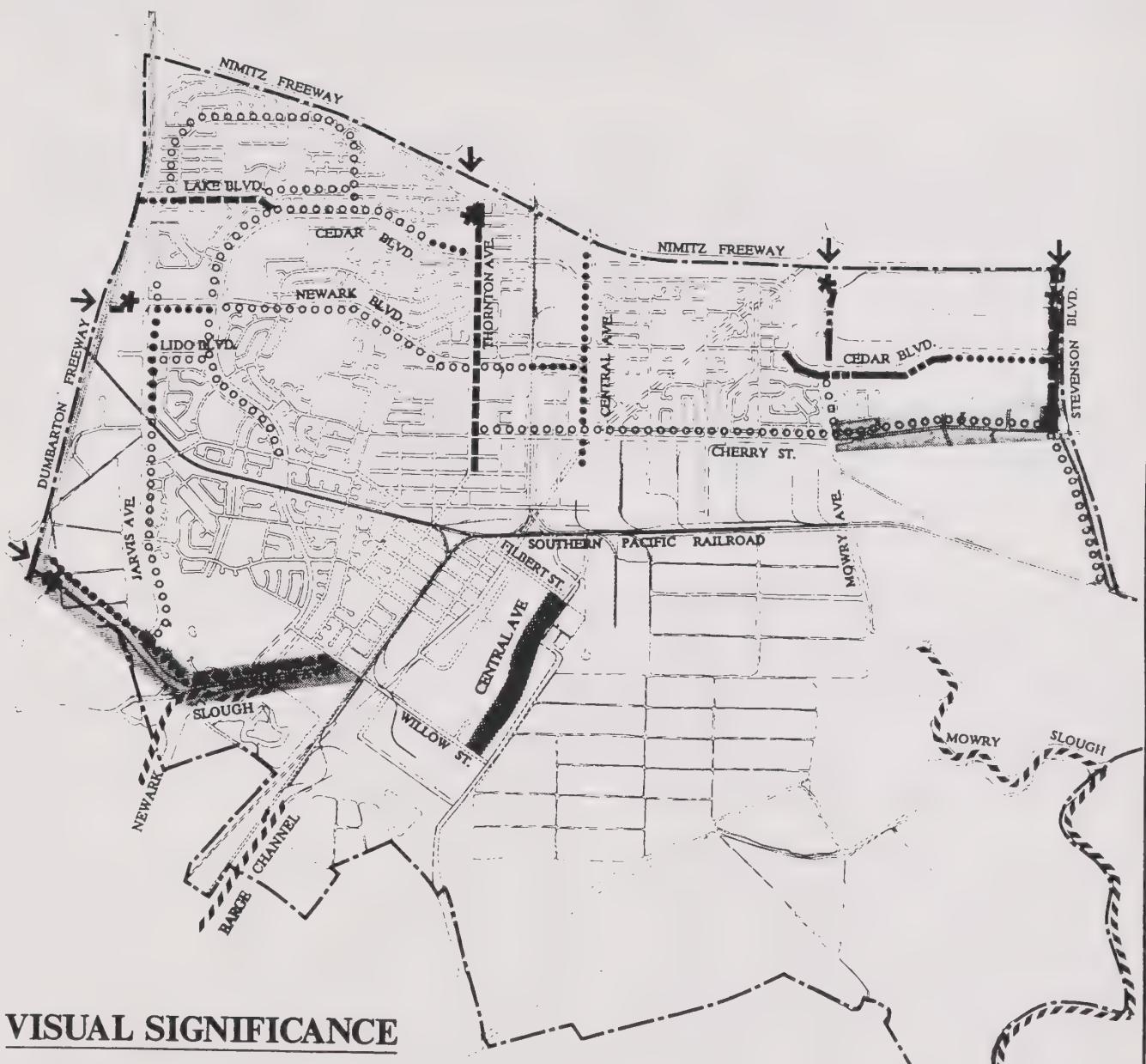
NEWARK'S MAJOR PATHWAYS

Cedar Boulevard
Thornton Avenue
Jarvis Avenue
Newark Boulevard
Cherry Street
Mowry Avenue
Central Avenue
Stevenson Boulevard

The final critical element of the image of a city is **nodes**. Nodes are major points of intersection or assembly. In eighteenth century cities, the primary node of a city was the town square. Unlike pathways or gateways, nodes are usually destinations, such as a major shopping center or industrial complex. *The major nodes in Newark are the NewPark Mall, the Community Center, the shopping complexes at Newark Boulevard and Jarvis Avenue (i.e., the Four Corners area) and at Thornton Avenue and Cedar Boulevard and the Historic Newark area.*

In recognition of the importance of the elements that influence the image of the City, Newark adopted a street median landscape program and policy in 1984. This program sets maintenance standards for the major pathways through the City. The more heavily traveled arterials receive the highest quality landscaping and receive a higher level of maintenance. Those areas located in the gateway are ranked the highest and are also the sites of the City's entry signs, referred to as "Special Features."

Figure 6-1
VISUAL SIGNIFICANCE



VISUAL SIGNIFICANCE

- Gateway
- Waterways
- Proposed/Existing Special Feature Site
- Existing Base Level I
- Existing Base Level II
- Existing Base Level III

- Existing Base Level IV
- Proposed Special Street Landscaping Medians

CITY OF NEWARK
California

The City also reviews the design of every new commercial, industrial and residential building (and additions) of two dwelling units or more. This review process assures that high-quality and compatible development occurs on the City's shrinking inventory of vacant sites.

Views to the Hills to the East

Although the hills to the east are well beyond Newark's planning area they contribute to the openness of the eastern side of the San Francisco Bay area. The City of Newark recognizes that some development is planned for the hillside areas by Union City, Fremont and other local jurisdictions with hillside lands. Newark should encourage these communities to guide development in such a manner that the basic open space qualities of these regional resources may be preserved to the extend reasonably possible.

6.3. CONSERVATION OF RESOURCES

Several physical resources of Newark will impact the growth and development of the City. The most important of these resources are; *Soils, Water, Sewer Capacity and Flood Zones*. These resources and their conservation are discussed in sections that follow. *Figures 2 through 5* of this Chapter show the spatial conditions of these resources

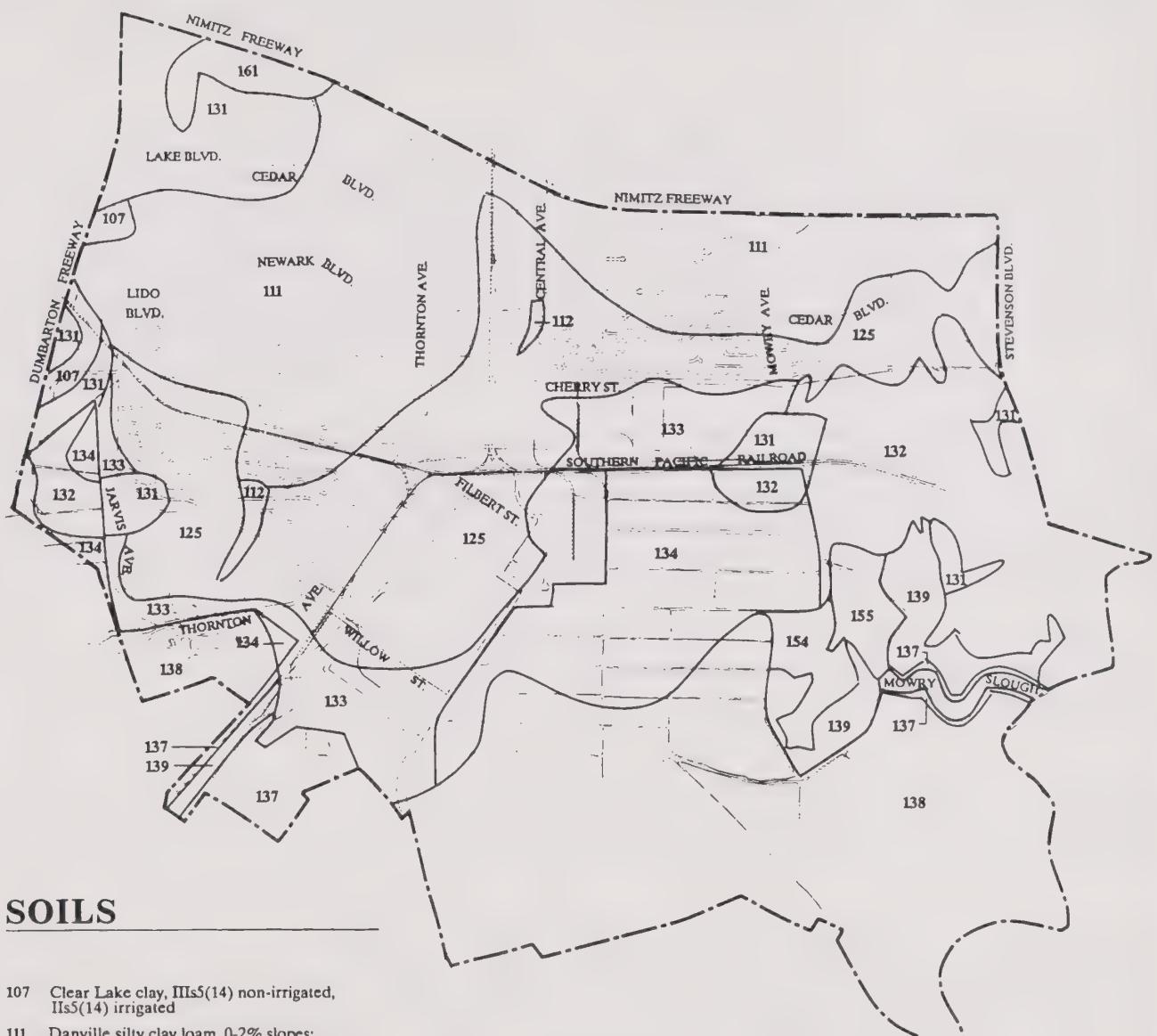
Soils

In 1981 the U.S. Department of Agriculture, Soil Conservation Service published a soil survey of Alameda County which provides detailed information regarding soils in the City of Newark. *Figure 6-2* is a composite reproduction from that report. Newark is on a floodplain, and the soils are composed of sand, silt and clay deposited by streams. In general, the Newark soils' agricultural capacity is limited by poor drainage, excessive amounts of salts that are toxic to plant growth, and poor quality water for irrigation. Soils' suitability for field crops are rated on a scale of I to VIII. Class I indicates the soil has few limitations upon use; Class VIII is defined as soil and landforms that have limitations which nearly preclude their use for commercial crop production.

Newark's soils range from Class III to VIII. Class III soils have severe limitations that reduce the choice of plants and/or require special conservation practices. The soils coded 107, 111, 112, 131, 154, and 161, mainly adjacent to Interstate 880, are rated Class III, but with proper irrigation these soils' productive qualities increase and are rated higher. The small section coded 161 near the intersection of Highway 84 and Interstate 880 can be improved to Class I productivity; however, the area is already developed with single family residences which precludes commercial agriculture. The remaining noted soils (107, 111, 112, 131, 154) could be improved with irrigation to a Class II rating. These soils could be cultivated for row crops such as head lettuce, tomatoes and cauliflower, but a substantial amount of the areas have been developed. In essence, with the exception of a section at Mowry's Landing and a section at the intersection of Mowry Avenue and the railroad line, Newark's largest, undeveloped parcels are not well suited to crop production.

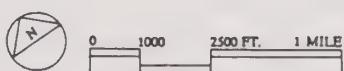
Soils coded 132, 134, 137, 138, and 139 which form a band along the City's westerly edge are suitable for development of wetland wildlife habitat. Of these, soils 132, 134, and 138 have high concentrations of salt in the surface layer, and when protected by levees can be used for commercial salt production. Many of the clay-rich soils (107, 111, 112, 125, 131, 154, 155, 161) are noted to shrink and swell as the level of moisture in the soil changes. When the soil is dry, it becomes rock hard and develops cracks in the surface; when the soil is wet, it becomes plastic and weak. The forces exerted during expansion and contraction are sufficient to heave buildings, crack shallow foundations and pavement, and distort roadbeds. The shrink-swell characteristics and the weakness of the soil when moist under the pressure of motor vehicles can lead to the premature failure of roadways. If the shrinking occurs at varying rates beneath a building, the differential settlement compounds the

Figure 6-2
SOILS



SOILS

- 107 Clear Lake clay, III_s5(14) non-irrigated, II_s5(14) irrigated
- 111 Danville silty clay loam, 0-2% slopes; III_s-3(14) non-irrigated, II_s-3(14) irrigated
- 112 Danville silty clay loam, 2-9% slopes; III_e-3(14) non-irrigated, II_e3(14) irrigated
- 125 Marvin silt loam, saline-alkali; IV_s-6(14) non-irrigated, III_w-6(14) irrigated
- 131 Omni silty clay loam, drained; III_s-3(14) non-irrigated, II_s-3(14) irrigated
- 132 Omni silty clay loam, strongly saline; VI_w(14)
- 133 Pescadero clay, drained; VI_s(14) non-irrigated
- 134 Pescadero clay; VII_w(14) non-irrigated
- 137 Reyes clay, VII_w(14) non-irrigated
- 138 Reyes clay; VII_w(14) non-irrigated
- 139 Reyes clay, drained; IV_w-9(14)
- 154 Willows clay, drained; III_s-5(14) non-irrigated, II_s-5(14) irrigated
- 155 Xerorthents, clayey; clay fill material with up to 15% debris
- 161 Yolo silt loam, III_c(14) non-irrigated, I(14) irrigated



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ability of the soils to cause damage. Yet, much of Newark's developed area is built on such soils. Proper drainage facilities which divert water away from building sites and roadway base material and a variety of engineered foundations can be used to compensate for the site specific soil characteristics and reduce the risk of damage.

Water

The Alameda County Water District (ACWD) provides water to Newark, Fremont and Union City via a grid of pipelines across the cities (see *Figure 6-3*). The sources of water are the Tuolumne River in the Sierra Nevada mountains, the Sacramento-San Joaquin Delta and local groundwater supplies. The Tuolumne River water is transported by the Hetch-Hetchy Aqueduct from the mountains westward, through Newark, across San Francisco Bay to Upper Crystal Springs Reservoir near San Carlos. The Hetch-Hetchy system is owned by the San Francisco Water Department, and ACWD contracts with the Department for delivery of 13,400 acre-feet of water a year, an average of 12 million gallons per day (1989 figures). The quality of this water is excellent and only requires simple disinfecting for domestic use.

Delta water is contracted from the State Water Project and delivered through the South Bay Aqueduct. The delivery of the maximum water entitlement of 42,000 acre-feet is limited by the amount of year to year precipitation, and a number of other physical, environmental and political factors. During fiscal year 1986-87, 27,900 acre-feet were delivered--10,000 acre-feet to the Mission San Jose Treatment Plant for treatment prior to consumption and 17,900 acre-feet for groundwater recharge. The 10,000 acre-feet of water is the treatment plant's maximum processing capability.

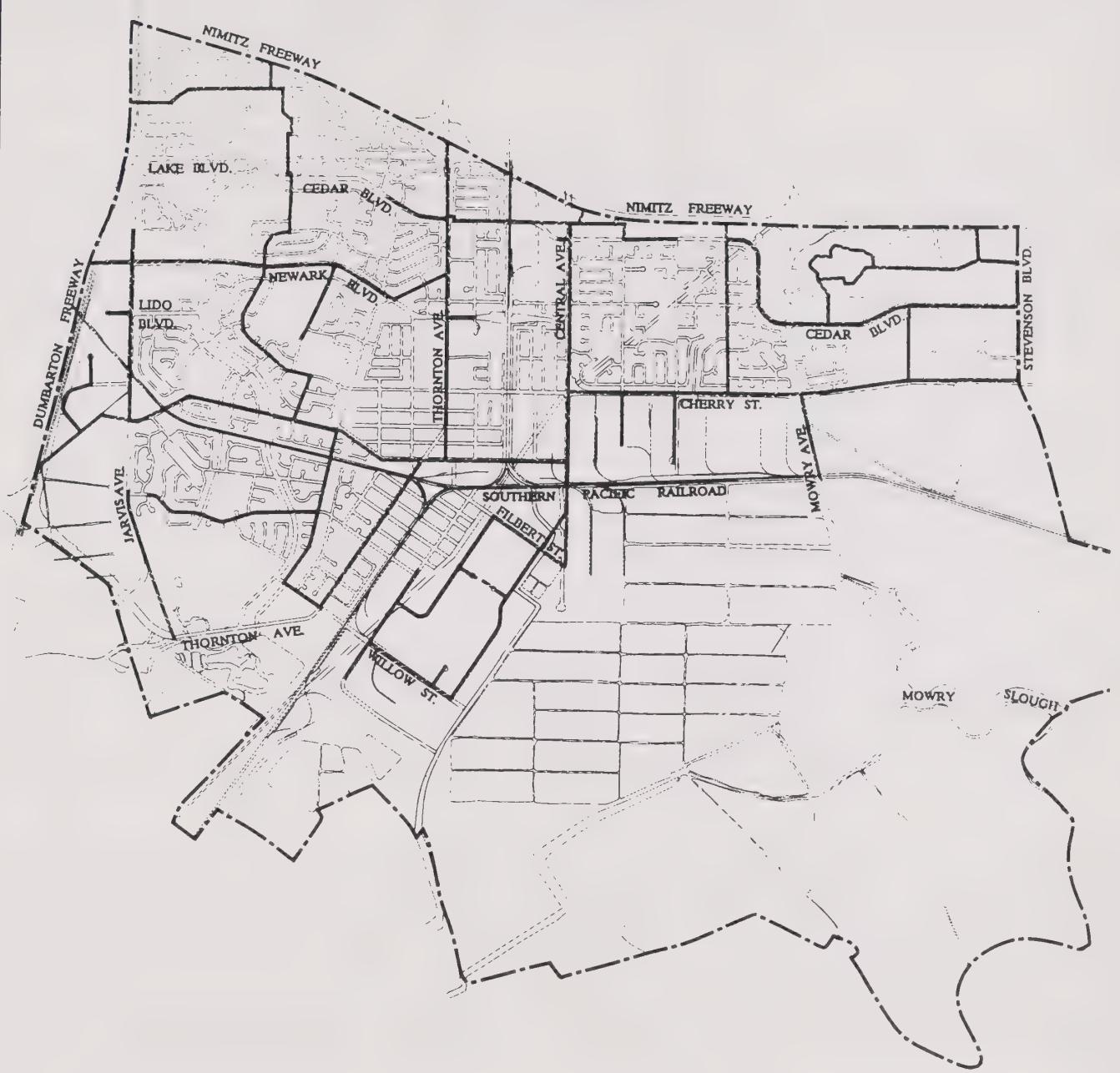
Water can be diverted and stored for later use at the Arroyo Del Valle reservoir near Livermore. ACWD and the Alameda County Flood Control and Water Conservation District have shared water rights to the storage in the Del Valle reservoir while the East Bay Regional Park District utilizes the reservoir for recreation in the summer.

The Mission San Jose Water Treatment Plant, near Mission Boulevard and Interstate 680 in Fremont, disinfects and filters South Bay Aqueduct water. The processing reduces the formation of trihalomethanes (potential carcinogens) and filters out naturally occurring asbestos fibers picked up from serpentine rock.

The ACWD service area overlies an aquifer system known as the Niles Cone. The aquifer has provided water for all types of uses since before 1900, and today it provides approximately 60 percent of the total water supply. The Hayward fault traverses the basin in a northwest-southeast direction and creates different hydraulic conditions in each portion. Originally, the basin was filled with fresh water and had a westerly gradient toward the Bay. During the 1920s, the overdrafting of groundwater resulted in the water levels dropping below sea level and the gradient tipping in-land. These conditions permitted the intrusion of salt water into the groundwater supply. In the 1960s ACWD began to use State Water Project water to recharge the basin and correct the conditions. In the late 1970s the district began the construction of a salinity barrier that would, in combination with the recharge program, further protect groundwater quality. The salinity barrier consists of a series of strategically placed wells which intercept intruding bay water. The pumped out saline water is discharged back into the Bay. The salinity barrier cannot remove all intrusion, but the degree of groundwater salinity is effectively controlled by the combined approach. The basin is recharged naturally from rainfall percolation and runoff into Alameda Creek, and artificially with water from the State Water Project. State water from the South Bay Aqueduct is released into Alameda Creek and its tributaries for channel percolation. Some of the water for percolation is diverted into old quarry pits adjacent to Alameda Creek.

ACWD's Supply and Facilities Planning Study completed in 1986 was expected to address water demand and facility planning to the year 2010, essentially a plan to meet the demand of near

Figure 6-3
WATER SUPPLY



WATER SUPPLY



Existing Water Supply Main (12" or larger)



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buildout with the Tri-City service area. The City will need to continue to cooperate with the ACWD to ensure that water resources are managed so that water is available to meet current and anticipated needs. Further, special precautions will need to be taken during drought periods to maintain adequate water supplies for essential needs.

Sewer Capacity

The Newark sewer system is shown in *Figure 6-4*. The Union Sanitary District (USD) serves Newark, Fremont and Union City. USD owns the sewer lines, pump facilities, and the sewage treatment plant in Union City. The sewer lines in Newark operate by gravity with flows generally from the northeast to the southwest. Sewage from each of the cities is fed into central force mains beginning in Fremont at the Irvington Pump Station (Landing Road at West Warren Avenue), flowing up to the Newark Pump Station (Hickory Street at Thornton Avenue), and then to the treatment plant adjacent to the Alvarado Pump Station in Union City (end of Alvarado Boulevard). The treatment plant capacity has been increased from 19.7 million gallons per day (mgd) to 35 mgd.

The last portion of the sanitary sewer system is the discharge of treated effluent into San Francisco Bay. The effluent is pumped from Union City to a plant in San Leandro where it is mixed with treated effluent from Hayward, San Leandro and San Lorenzo. These three cities and the Union Sanitary District form the East Bay Dischargers Authority which owns and operates the outfall facilities. The discharge is pumped northwesterly from the San Leandro facility to a point well into San Francisco Bay at a location that maximizes the dispersion into the Bay's currents.

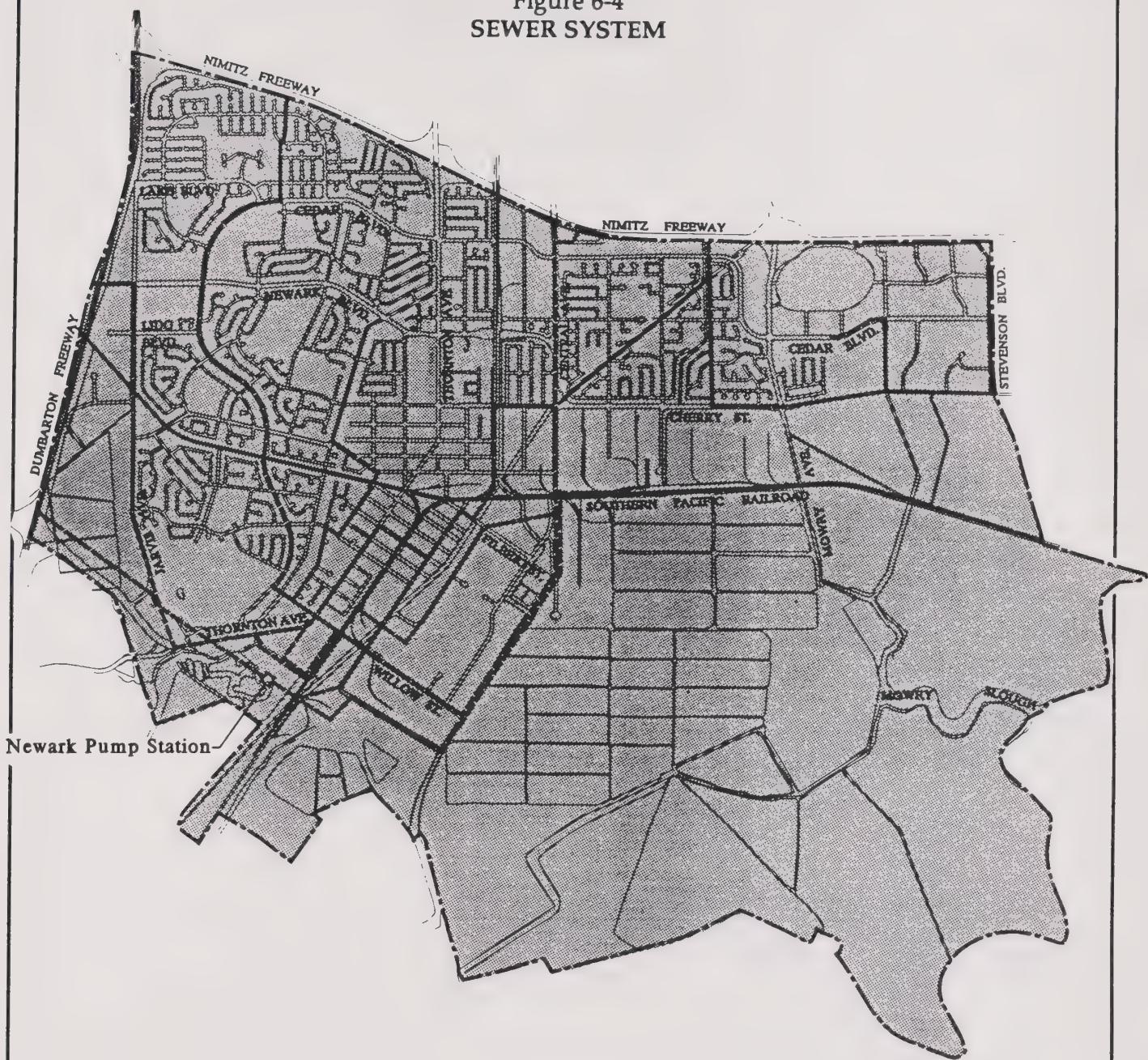
Flood Hazard Areas

Figure 6-5 shows that there are 100- and 500-year flood zones in Newark. All of the 100-year flood zones are, with the exception of two small areas near the intersection of the railroad tracks in the center of the City and another adjacent to Stevenson Boulevard, located west of the Southern Pacific Railroad tracks. The 500-year flood zones are scattered throughout the City with the largest area located east of the railroad tracks alongside the flood control channel between Mowry Avenue and Stevenson Boulevard.

Flood zones indicate the frequency with which certain areas are subject to flooding. In the case of the 100-year zone, there is one chance in one hundred (one percent) that these areas will flood during any given year. Flood zones are designated by the Federal Emergency Management Agency for the purposes of providing flood insurance. Before a bank will lend money to a developer for a project a determination must be made that an area is not in a 100-year flood zone or the developer must purchase flood insurance if it is determined that the site is covered by a 100-year zone. Further, the City of Newark requires that all new residential development be elevated out of the 100-year flood zone. Sufficient fill must be provided to assure that the top of curb in a new subdivision is not below the ten foot elevation.

Most of the low-lying undeveloped lands that form the southwestern edge of the City, including the salt ponds, are part of the 100-year flood zone. Several drainage channels that cross through the developed portions of the City to the Bay are also within this 100-year flood zone. As mentioned above, future development in these areas will be subject to special building construction requirements concerning the elevation of the lowest floor. These requirements differ as they pertain to residential and non-residential construction.

Figure 6-4
SEWER SYSTEM



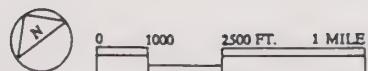
SEWER



Existing Sewer Line (12" or larger)

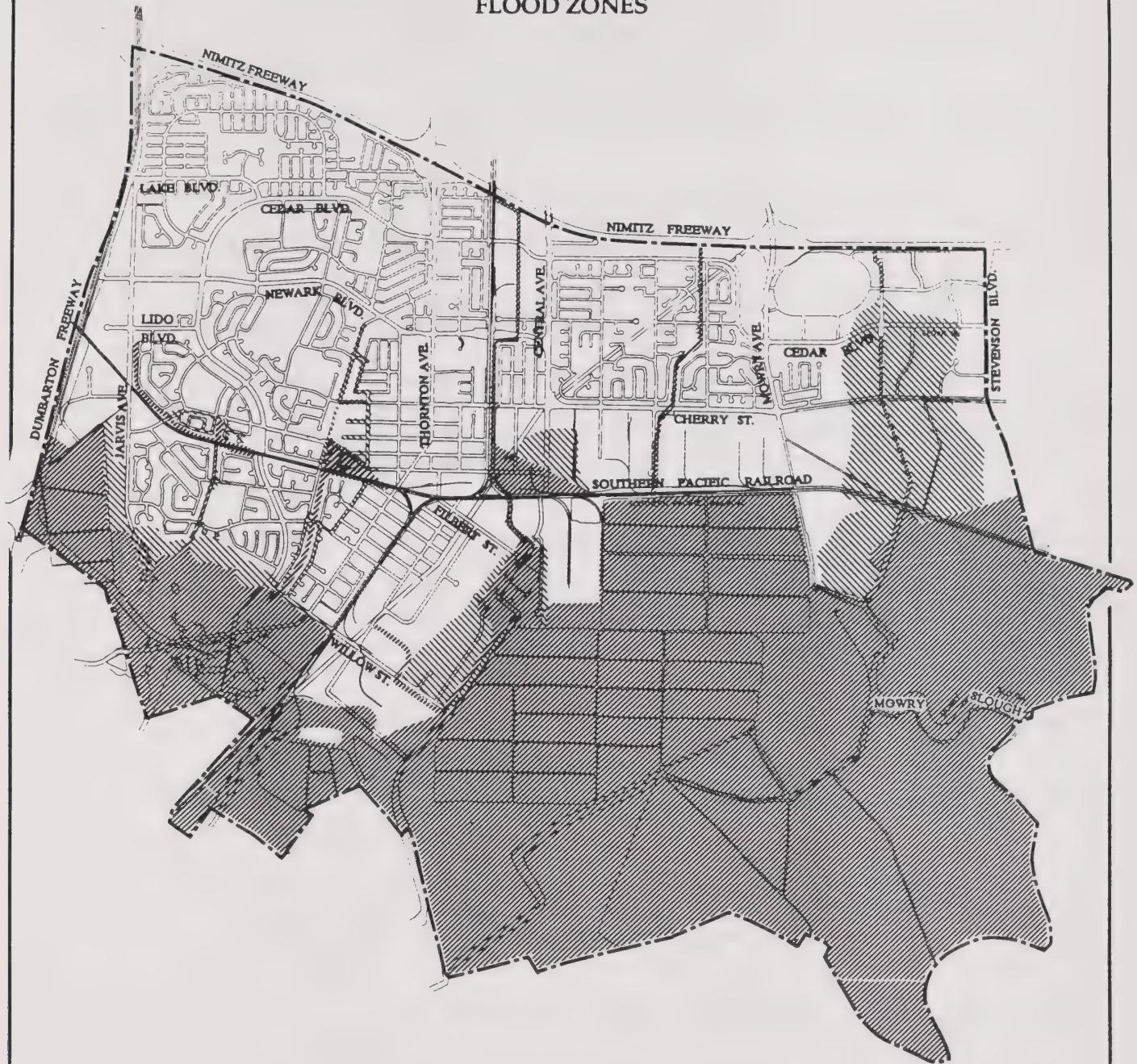


Existing Pump Station



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Figure 6-5
FLOOD ZONES



FLOOD ZONE

 100 Year Flood Zone

 500 Year Flood Zone



CITY OF NEWARK
California

6.4 OPEN SPACE AND CONSERVATION GOALS, POLICIES AND PROGRAMS

GOAL 1. *Encourage the conservation and preservation of unique open space and conservation resources that help to define the quality and character of the City.*

Policy a. Protect and where possible enhance the *public* open space resources available within or near Newark.

Program 1. Preserve and where possible add land to existing parks.

Program 2. Require new parks to be provided to serve new development.

Program 3. Encourage the Newark Unified School District to preserve the open fields and recreational facilities at the school sites.

Program 4. Encourage public utility agencies (e.g., San Francisco Water Department/Hetch-Hetchy, P.G.&E., etc.) to, where possible, maintain their easement rights-of-way for open space. In particular, the San Francisco Water Department right-of-way where adjacent to residential uses should only be used for open space purposes.

Program 5. Preserve and enhance the open space qualities of the major *Gateways, Pathways, and Nodes*, as defined in this general plan. Establish special design guidelines, including pedestrian facilities as appropriate, and project review processes for any development, landscaping, signage, etc., in these areas that preserve the feeling of openness and, as possible, enhance the identity of Newark as a special place in the region.

Program 6. Support efforts of the EBRPD to continue enhancement, and where appropriate, expansion of the regional park system.

Program 7. Consider all reasonable options for protection or acquisition of sites with unique open space resources.

Program 8. Provide for adequate building setbacks from streets and adjoining properties so that each development site has some relief from the feeling of overcrowding and the impacts of the works of man and to provide space for on-site landscaping.

Policy b. Encourage *private property owners* to preserve unique open space areas and natural features on their lands.

Program 9. Work with Cargill Salt Co. to conserve its salt production resources during the plan period. Support preservation of identified wetlands under control of Cargill Salt and work with Cargill Salt for controlled conversion of other lands that may take place after the year 2007.

Program 10. Evaluate every land development proposal for potential contributions to the Newark open space system. Identified unique open space, vegetation, animal habitat or natural resource areas should be protected where possible and appropriate.

Program 11. Avoid development of any lands identified as having natural hazards where potential risk cannot be reduced to acceptable levels through

mitigation measures (e.g., flood hazard areas, lands with severe potential for earthquake shaking, liquification, etc.).

GOAL 2. *Acknowledge the San Francisco Bay National Wildlife Refuge acquisition, and its value as a community resource.*

Policy a. Support actions to preserve and maintain the lands of the San Francisco Bay National Wildlife Refuge (SFBNWR).

GOAL 3. *Encourage the recycling of solid waste in order to conserve scarce resources.*

Policy a. Promote interjurisdiction cooperation, coordination and planning in the development of recycling programs.

Program 1. Maintain a solid waste plan for Newark that is coordinated and, where appropriate, consistent with the County plan or area-wide plan.

Policy b. The City should manage solid waste in order to maximize reclamation and reuse of resources contained in the solid waste stream.

Program 1 Provide incentives to recycling, by such actions as providing containers and pick-up services for recycled materials.

Program 2. Develop source separation programs for solid waste materials with recycling value, for all waste generators.

Program 3. Purchase supplies and other goods containing recycled materials for City use.

Program 4. Require retail centers and multi-family residential developments to provide on-site drop-off areas for recycling and encourage regular pick-up of recycled materials.

GOAL 4. *Maximize Newark's opportunities for energy-efficiency.*

Policy a. In all residential, commercial and industrial buildings apply conservation measures to reduce energy consumption.

Policy b. Encourage development and use of alternative energy sources such as solar energy.

Policy c. Consider greater energy-efficiency opportunities in building design and land development practices.

Program 1. Use the City newsletter to provide information and alternative energy opportunities and promote energy efficient practices.

Program 2. Make energy conservation an important criterion in the evaluation of development projects.

Policy d. Support programs that reduce dependence on non-renewable energy sources.

GOAL 5. *Conserve and Enhance the City's Water Resources and protect development from the impacts of identified flood hazards.*

Policy a. Support efforts to maintain and enhance the system for delivery of high quality water to meet the City domestic and commercial water needs.

Program 1. Cooperate with the ACWD and other appropriate agencies in planning to meet the water needs of the City.

Policy b. Promote water conservation through development standards, building requirements, landscape design guidelines, and other applicable city policies and programs.

Program 2. Support water conservation practices in all existing developments through use of devices such as water restrictors, low water volume fixtures, etc.

Program 3. Use the City newsletter to make residents aware of the need for water conservation and of the options they can use to cut water consumption.

Program 4. Review all new development projects to ensure that "state-of-the-art" water conservation practices and equipment are utilized.

Program 5. Regulate land uses such as auto dismantling, waste disposal facilities, gas stations, and industries using toxic chemicals in areas where oil, gasoline, and toxic substances may enter a waterway or contaminate soils.

Program 6. Prohibit and abate the dumping of debris and refuse in and near any waterways.

Program 7. Identify existing erosion problems on public and private lands and provide for elimination of such erosion.

Program 8. Cooperate with the Union Sanitary District to ensure maintenance and upgrading of the sanitary sewer system to serve the needs of City residents and that only properly treated waste water is discharged into San Francisco Bay.

Policy c. Protect flood plain areas and avoid placing development in areas subject to flooding.

Program 9. Identify flood hazard areas and control development in such areas by identifying and implementing appropriate mitigation measures.

Program 10. Prohibit development, grading, or other land modifications that would adversely affect the natural storm drainage system, including unacceptable erosion.

GOAL 6. *Conserve and manage the City's tree resources.*

Policy a. Maintain, and where appropriate, enhance programs for preserving existing trees.

Program 1. Maintain an active tree replacement program that conserves trees and preserves the life of public improvements such as curbs, gutters and sidewalks.

Policy b. Maintain an active and cost-effective tree management program to protect and preserve the City's urban forest.

Program 2. Continue to participate in the Tree City USA program.

Program 3. Review the street tree planting criteria periodically to reflect revisions to City policies and changing horticultural practices.

Chapter 7. RECREATION

Chapter. 7 RECREATION

7.1 INTRODUCTION, PURPOSE AND RELATIONSHIP TO OTHER CHAPTERS

This chapter contains the park and recreation goals, policies and standards for Newark. It also describes the City's park system and the proposed changes, modifications and additions to the system that are anticipated during the plan period to accommodate the growth described in the land use element. The park and recreation system is a major component of the City's open space system and, thus, while it is described here, it is also recognized in *Chapter 6, Open Space and Conservation*.

The public park and recreational facilities that serve Newark have been planned and implemented over time according to conventional standards of park planning. In many cases these standards are still appropriate; and, therefore, are maintained in this plan. However, as the population of the City matures and its recreational demands become more sophisticated some of these standards may no longer prove adequate to serve the needs of City residents. Further, as the funds available for park land acquisition, development, improvement and on-going maintenance become more difficult to obtain and/or allocate, it will be necessary for the City to continue and in some cases expand on its practice of encouraging the development of private recreation facilities as a part of new development. Other significant recreation amenities, including the golf course required in Area 4, will also expand recreational opportunities available to Newark residents.

It will be important for the City to monitor changing desires of residents, and funding mechanisms and consider all possible options to meet recreational demands. In addition, the City will continue to support programs that encourage a very broad range of public, semi-public and *private* recreation facilities in the Community. In particular, as new private development takes place the City will ensure that appropriate private recreational facilities are provided to serve the special needs of the development and to balance the public recreational facilities otherwise provided in the Community. This approach has been successfully used by the City to provide a high level of recreational opportunity within Newark.

While it is critical to address the recreation areas available within the City of Newark for Newark residents, it is equally important to recognize that three significant passive recreation areas are located immediately adjacent to the City. The *San Francisco Bay National Wildlife Refuge*, including over 20,000 acres of open space, is immediately accessible to Newark residents. The entrance to this resource is in Newark and the U.S. Fish and Wildlife Service has plans to expand the Refuge to include roughly a third of Newark's area. The *Coyote Hills Regional Park* consists of over 900 acres of open space/recreation area. This area is located immediately adjacent to Newark and is accessible to, and used by Newark residents. The *Ardenwood Regional Preserve* located immediately to the north of the City, is a 200 acre, working historic farm, that is managed by the East Bay Regional Park District. This facility has been preserved as a reminder of the area's agricultural past.

7.2 THE PARK AND RECREATION SYSTEM

The park and recreation system that serves the citizens of Newark includes City owned and operated neighborhood and community parks as well as other public and private special park and recreational facilities. This system serves as the basis for recreation planning in Newark, and it is the intent of this plan that the system be enhanced and modified as set forth in this Chapter. To accomplish a sound recreational environment will require public and private efforts and may require some new

thinking about recreation in the City. In total, the Newark park and recreation system at the start of the plan period consisted of the following public and private areas:

City owned or maintained	124.1 acres
School District facilities/area	143.7 acres
<u>Private facilities/area</u>	<u>4.3 acres</u>
Total	272.1 acres

The sections that follow describe the details of the existing and planned community park and recreation system.

Total Public Park Land and Population Served

In 1989, near the beginning of the plan period, the total Newark population was approaching 38,000 people (i.e., 37,861 according to the 1990 U.S. Census). This population is served by the neighborhood, community, and special public park facilities listed in *Figure 7-1* and located in *Figure 7-2*. These facilities account for 124.1 acres of land, or 3.28 acres per 1,000 people.

Traditionally, adequacy of, or need for park lands has been measured on a basis of acres per 1,000 people. In California, the average is approximately 3 to 4 acres of City operated park land per 1,000 (Source: Survey published by the State Office of Planning and Research on the total park/recreation/open space area in cities in California, 1988). The Newark ratio at the beginning of the plan period was within the California average. It should be noted, however, that the Newark average identified here only includes parks that are operated or maintained by the City. If the recreation areas adjacent to schools and in private developments were included in this average, the number of acres per thousand population would increase to 7.19. Once the special recreation facilities, such as a golf course (described later in this Chapter) are developed, the number of acres per thousand standard would increase to approximately 8. This standard assumes a total population in 2007 of 51,942. In any case, it is desired to increase the amount of public recreation land to be closer to the high end of the state average. Efforts in support of this objective are provided for in the goals and policies of this chapter. However, it is also recognized that opportunities for park expansion are limited by available land, land and improvement costs, and acquisition constraints imposed by such regulations as the Quimby Act and AB 1600 (see following boxes).

Quimby Act

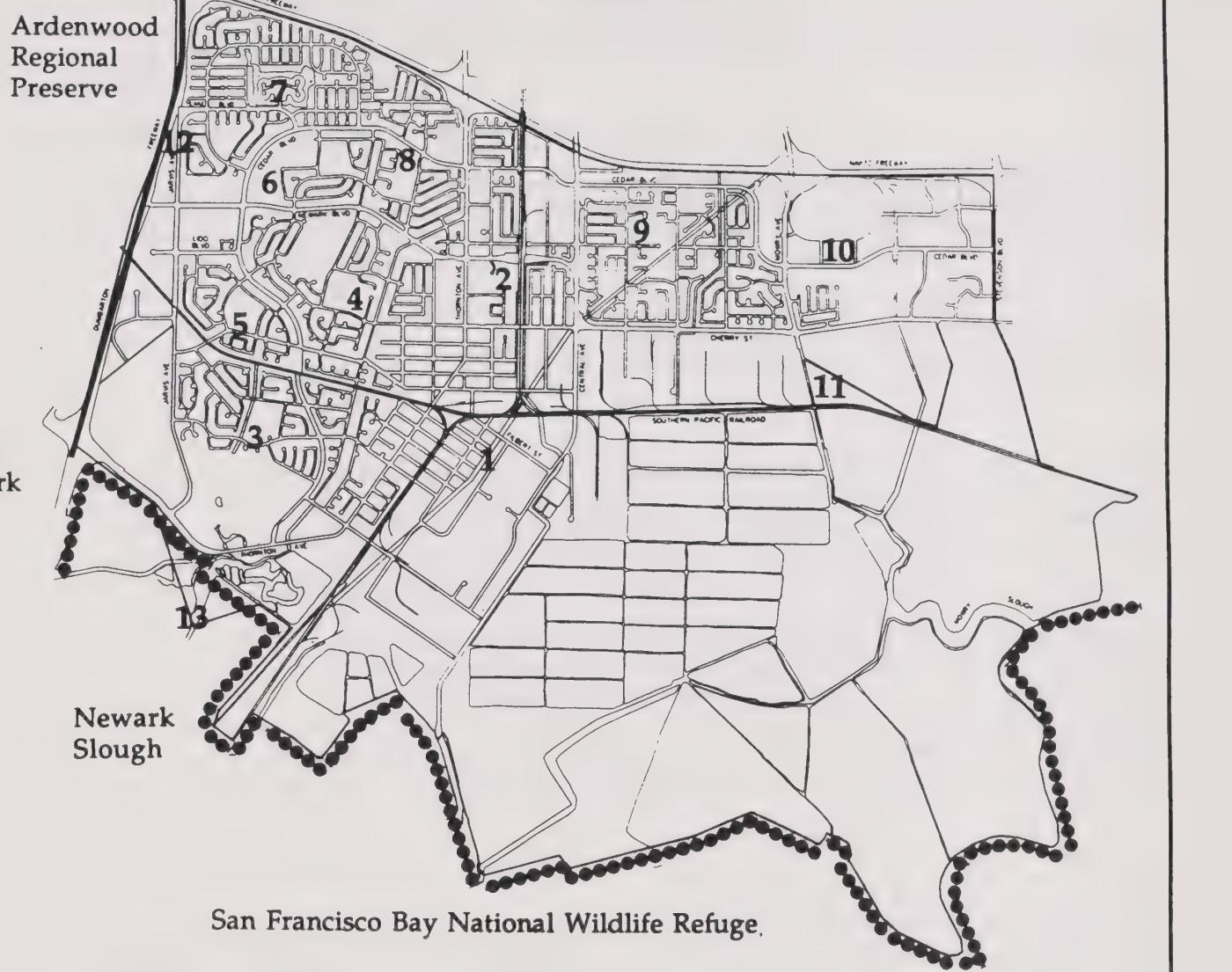
The Quimby Act (California Government Code Section 66477 et.seq.) enables cities to adopt an ordinance requiring housing developers to either dedicate land or, alternatively, to pay a fee to be used for park or recreational purposes as a condition of project approval. Specific limits of the act are:

- (1) The ordinance must be in effect for a period of 30 days before filing of the tentative or parcel map;
- (2) The ordinance must include definite standards for determining the proportion of the subdivision to be dedicated and the amount of the fee to be paid. The "standards" provisions provide for a formula of only three acres of park area per 1,000 persons, with certain exceptions;
- (3) The land or fees are to be used only for the purpose of developing new or rehabilitating existing park or recreational facilities to serve the subdivision, and the amount and location of land to be dedicated or amount of fees paid shall bear a reasonable relationship to the use of the park and recreational facilities by the future inhabitants of the subdivision. In *Associated Home Builders etc., Inc., supra*, the court did not put a strict limitation on this criteria. It stated that the fees are justified if used for park and recreational facilities generally, but not exclusively, available to subdivision residents. (See *Associated, supra*, fn 5 at 640.)
- (4) The legislative body must have a general plan or specific plan containing policies and standards for park and recreational facilities in accordance with definite principles and standards;

Figure 7-1
CITY OF NEWARK PARKS

Neighborhood	Name	Acreage	Location	Facilities
Northeast Newark	Community Park	16.0 ac	Cedar Blvd. at Newark Blvd.	Community Center, 4 lighted tennis courts, basketball court, warm-up wall, play apparatus, open turf area and pathways, picnic facilities.
	Lakeshore Park	24.0 ac	Lake Blvd. at Lakeshore Dr.	16 acre lake for fishing, boating, exercise course, open turf area, and pathways.
	Musick Park	0.8 ac	Cedar Blvd. at Musick Ave.	Open turf areas and pathways play apparatus; picnic facilities.
	MacGregor School	10.3 ac.	Cedar Blvd. at Lake Blvd.	Play fields under long term lease from School District. (See text on schools for further description.)
	Eucalyptus Grove (north)	1.6 ac	Jarvis Ave. at Cardiff St.	Passive recreation and open space.
North Central Newark	Mayhews Landing Park	8.7 ac	Cherry St. at Mayhews Landing Road	Play apparatus, basketball court, open turf area, warm-up wall, picnic facilities
Northwest (Lido Faire)	Mirabeau Park	5.8 ac	Haley St. at Mirabeau Drive	Play apparatus, open turf area and pathways, picnic facilities.
	Bridgepointe Park	3.6 ac.	Spruce St. at Bridgepointe Dr.	Play apparatus, open turf and pathways, picnic facilities
Central Newark	Birch Grove Community	12.6 ac.	Birch St. at Robertson Ave.	Lighted softball field, four tennis courts, basketball court, open turf area and pathways, play apparatus, picnic facilities.
	Ash St. Park	6.4 ac	Enterprise Dr. at Filbert St.	Play apparatus, softball field, basketball court, open turf area and pathways, neighborhood center, picnic facilities
	Civic Center	5.1 ac	Newark Blvd. at Civic Terr.	Play apparatus, open turf area and pathways, exercise course, basketball court, Co. Library, picnic facilities.
Southeast Newark (Mowry West)	Sportsfield Park	26.0 ac.	Mowry Ave. at Cherry St.	Lighted softball field, non-lighted softball, soccer fields open turf area, play structures, pathways.
	Eucalyptus Grove (south)	3.2 ac	Cedar Blvd. at NewPark Mall	Passive open space and summer concerts.
Total		124.1 acres		

Figure 7-2
CITY PARK SYSTEM



- 1 Ash Street Park
- 2 Civic Center
- 3 Bridgepointe Park
- 4 Mayhews Landing Park
- 5 Mirabeau Park
- 6 Community Park/MacGregor Sportsfields
- 7 Lakeshore Park
- 8 Musick Park
- 9 Birch Grove Park
- 10 Eucalyptus Grove (on Cedar Blvd.)
- 11 Sportsfield Park
- 12 Eucalyptus Grove (on Jarvis Ave.)
- 13 Wildlife Refuge (within City limits)
- Wildlife Refuge Boundary



Scale: 1" = 4,000 feet

Quimby Act (continued)

- (5) The city shall develop a schedule specifying how, when and where it will use the land or fees or both to develop park or recreational facilities. Any fees collected under the ordinance shall be committed within five years after payment of the fees or the issuance of building permits on one-half of the lots created by the subdivision, whichever occurs later. If the fees are not committed, they shall be distributed and paid to each record owner of the subdivision in the same proportion that the size of each lot bears to the total area of all lots in the subdivision;
- (6) Only the payment of fees may be required for subdivisions containing 50 parcels or less;
- (7) Subdivisions of less than five parcels that are not used for residential purposes shall be exempt unless a building permit for residential structure is requested for one of the parcels within four years. The Quimby Act is not applicable to commercial and industrial subdivisions or condominium projects or stock cooperatives which consist of subdivision of airspace in an existing apartment building more than five years old when no new dwelling units are added;
- (8) Planned developments, real estate developments, stock cooperatives, and community apartment projects, as defined in the Business and Professions code, and condominiums, as defined in the Civil Code, shall be eligible for credit as determined by the city.

AB 1600

California Government Code Section 66000 et.seq., commonly known as AB 1600, allows cities to impose a fee as a condition of development project approval for any development, including non-residential projects. The fee may be used to finance any public facility as long as a reasonable relationship can be established between the public facility and the development project on which the fee is imposed. Also, the public facility to be financed must be identified in a public document such as a general plan.

As a result of constraints to park land expansion, every reasonable public *and* private opportunity will need to be explored to obtain the additional park acreage pursuant to the needs identified and programs set forth in this chapter. *However, this plan also recognizes that if it is found that all additional land cannot be acquired, then it will be necessary to enhance the recreational system through increasing the recreational opportunities at existing parks. This could be accomplished through both adding special facilities and new programs as well as by developing school properties adjacent to existing parks.*

Neighborhood and Community Park Standards

Although the population ratio figures indicates how much park land should be provided to accommodate a certain size population, it does not address such qualitative factors as park land accessibility and usability. More appropriate criteria, or "standards", for measuring the adequacy of parks are: purpose and size of parks, distribution throughout the city, accessibility, population served by each park, design, and available recreation facilities.

Newark, like most communities, has two different kinds of public park facilities: *neighborhood and community parks*. The desired standards for these parks are stated in Figures 7-3 and 7-4. (Source: These standards have been derived from several sources: the National Recreation and Park Association, other cities, and Newark's own practices.). *These standards remain as the objective of the City and should be implemented for any new neighborhood and community parks. However, as qualified above, and in the goals of this chapter, if the existing parks cannot be expanded to meet these standards, then options should be explored to enhance the facilities and programs at the existing parks so that they better meet the needs of the populations they are intended to serve.*

In addition, private recreational facilities play, and will continue to play, a critical role in serving the overall recreational needs of the Newark community. These facilities are provided through a

variety of programs, including project design requirements associated with approval of private development proposals. Standards for such recreational facilities are tailored to the specific project and population to be served by the project. For example, swimming pools, tennis courts, exercise rooms, jogging and walking trails, tot lots, etc. should be provided, where found possible and appropriate, with all new development projects. Larger scale residential projects should, and currently do, include recreational facilities to serve project residents. Further, commercial, office and industrial projects should provide on-site recreational facilities to serve the needs of those who will work, shop and otherwise make use of the site. In this way, the practical amount of effectively usable recreational space will be well above the numerical standards of persons per acre cited in this plan. This approach, which has already been effectively applied in Newark, requires cooperation between the public and private sectors. The City will continue to exercise a reasonable approach, within the framework of this plan, to ensure the availability of high quality private recreational facilities in the Community.

Neighborhood Parks

The following *existing neighborhood parks* are provided for on the Plan Diagram:

- (1) **Mayhews Landing Park.** This 8.7-acre park is situated in the northwest section of Newark. It is next to Graham Elementary School which has about 5.6 acres of usable open space. A playground and picnic facilities are also located on this site. There are about 4,450 people in its service area.
- (2) **Mirabeau Park.** This park has 5.8 acres and is located on Haley Street next to Snow Elementary School in the northwest section of Newark. The school provides another 6 acres of usable open space. Railroad tracks passing through its half-mile service area act as a barrier to park access for residents living on the west side of the tracks. A playground and picnic facilities are located at this facility. There are about 3,600 people living within one-half mile of the park, including those living west of the tracks who, effectively, are not served by this facility.
- (3) **Lakeshore Park.** This 24-acre park is situated in the northeast section of the City. The area of this park, excluding the lake, is 10 acres. Its main feature is a 16-acre waterway, which wraps around a single-family subdivision. The park and waterway are an integral part of the single-family development in which it is located, and, as such, Lakeshore is a neighborhood park. It is also the only neighborhood park in this quadrant of the city. However, in some way Lakeshore Park functions as a community park because its unique fishing and boating opportunities attract people from all over the City. Kennedy, and Ruschin Elementary schools and MacGregor School provide additional recreational opportunities for residents within the half-mile neighborhood service radius of the park. About 3,500 people live in the Lakeshore Park service area.
- (4) **Musick Park.** At 0.8 acre, this park would be characterized as a mini park if it were not for the 4.4 acres of recreational land at the adjacent Musick Elementary School. The park is located at the corner of Cedar Boulevard and Musick Avenue. It is in a neighborhood of commercial and residential land uses. This park also has a playground. While this park is quite small for the population (3,800 people) in its half-mile service radius, the presence of the school enhances its usability.
- (5) **Civic Center Park.** Civic Center Park is a 5.1-acre park adjoining Newark's Civic Center. It serves a primarily high density residential neighborhood, and commercial areas. A branch of the *Alameda County Library* is adjacent to the park. Portions of the park's one-half mile service area are separated from easy park access by railroad tracks which run in an east/west direction near the park. Residents south of the tracks may prefer to use Milani Elementary School and Birch Grove Park for recreational activities. Thornton Avenue may be a similar obstacle to park access for those living north of this arterial. These residents may find Mayhews Landing Park more accessible. It thus appears that Civic Center Park functions more as a pleasing open space area around the Civic

Center rather than as a typical neighborhood park. However, it does have a playground, basketball court and picnic areas. About 3,700 people live within a half-mile radius.

Figure 7-3
NEIGHBORHOOD PARK STANDARDS

Size:	Five to 10 acres
Total Acreage Per Thousand:	One acre per 1,000 people.
Service Radius:	One-quarter to one-half mile.
Population Served:	Up to 5,000 people.

Location: In residential neighborhoods, away from arterial streets; and, when possible, next to elementary schools to enhance park usability for field sports and expand the sense of open space.

Design: Significant features of a neighborhood park include its opportunities for open field play, picnicking, tot-lot activities and ease of pedestrian and bicycle access. On-site parking and specialized recreation equipment should be limited to those neighborhood parks having a special need (e.g., neighborhood demand).

Since a neighborhood park is meant to provide for the recreational needs of residents within walking distance, it is usually smaller (5 to 10 acres), and its facilities are intentionally more limited, than a community park. For example, these parks do not have restrooms or sidewalks adjacent to the streets. A neighborhood park should not attract people from beyond its service area, because that potentially increases traffic in the neighborhood.

The service area of a neighborhood park is typically one-quarter mile to one-half mile, with the population within that radius dictating whether or not the park is adequate to accommodate the recreation and open space needs of the neighborhood. A one-half mile service radius is applied in Newark because the City is primarily low density, and population within a half-mile of each park seldom exceeds the recommended standard of 5,000 persons.

(6) **Bridgepointe Park.** This 3.6-acre park is located in the northwest portion of Newark, next to Lincoln Elementary School. With the exception of Musick Park, it is the smallest neighborhood park in the City. However, it is supplemented by 8.7 acres of recreational space at Lincoln School. The Bridgepointe Park service area is predominantly residential and includes vacant land proposed for low density residential development (Area 6). The eastern section of Bridgepointe Park's service area overlaps the western section of the Mirabeau Park service area. The Southern Pacific railroad tracks, running in a north/south direction through the service areas of both parks, probably serve as a boundary for residents as to which neighborhood park they use. This park also has a playground and picnic facilities. There are about 4,300 people living within a half-mile radius.

(7) **Ash Street Park.** As a 6.4-acre park facility located in the industrial southwestern section of Newark, this park serves daytime workers during lunch and after business hours as well as neighborhood residents. The park has a recreation building and annex where the Recreation Division sponsors activities and programs. This park also has a playground and picnic facilities. The service area within a one-half mile radius has a population of 2,221.

Community Parks

The three *existing community parks* described below are provided for on the Plan Diagram. Because of their size and expanded recreational opportunities, each of these three parks is intended to serve a

larger area than a neighborhood park. All residential land in Newark falls within a 1.5-mile service radius of at least one of these community parks.

(1) **Birch Grove Park.** This 12.6-acre park serves the southern section of the City. Located in a residential neighborhood and not on an arterial, it is bounded by Smith Avenue, Birch Street, Robertson Avenue, and single-family homes. In addition to its role as a community park, Birch Grove Park satisfies the neighborhood park needs of 4,600 residents within a half-mile radius in the area bounded by Central Avenue to the north, the Newark City limits to the east, Mowry Avenue to the south, and Cherry Street to the west.

(2) **Community Park.** Situated in the northern section of Newark, this facility, which includes the 16-acre Community Center Park plus the 10.3 acre MacGregor playfields, is located on a site bounded by Newark and Cedar Boulevards and by single-family homes, a school and a church. As a community park, it serves residents of the northern section of Newark. It doubles as a neighborhood park, serving about 4,900 residents in the area bounded by Jarvis Avenue, Lake Boulevard, Lafayette Avenue, and Lido Boulevard. Within this half-mile service radius there is considerable overlap with the service areas of Mirabeau, Lakeshore, and Mayhews Landing neighborhood parks. However, Newark's residential development and population is heavily concentrated in the northern and eastern neighborhoods; and a heavier concentration of parks is warranted. A community center located in the park provides special program opportunities for the City and also houses the Recreation Division offices.

Figure 7-4
COMMUNITY PARK STANDARDS

<i>Size:</i>	20 acres, minimum
<i>Total Acreage per Thousand:</i>	Two acres per 1,000 people
<i>Service Radius:</i>	One to two miles
<i>Population Served:</i>	Up to 15,000

Location: Ideally on an arterial since community parks draw from a large area and are traffic generators. It is desirable for such parks to have direct access to public transportation facilities. Should be located within a residential area, without significant physical barriers, so that it can also be used as a neighborhood park.

Design: On-site parking and restrooms should be available. Lighting and landscaping should promote safety. Recreation facilities should include not only those commonly found at neighborhood parks, but also specialized facilities for more organized activities; e.g., softball fields, tennis courts, basketball courts, community buildings. Open space for unstructured play is also needed.

(3) **Sportsfield Park.** This partially developed park is located on the corner of Mowry Avenue and Cherry Street at the southwestern edge of the City's residential neighborhoods. Upon completion, this community park will have 26.0 improved acres, most of which will be devoted to sportsfields. A second Community Center Building, a playground, and a picnic area are to be provided. Most of the land within a half-mile of Sportsfield Park is devoted to commercial or industrial use. However, there are residential neighborhoods within the park's service area, across Cherry Street, which are not served by any other park. Further, with proposed residential development of Area 4, there will be increased recreational demands in this area. [Note: Eighteen (18) acres of this 26 acre site have been developed with sports fields and parking facilities. Because a major part of the financing for development of the park depends on the collection of development fees imposed on new housing and available grant funds, Sportsfield Park is not expected to be completed until after 1994.]

Other Park Facilities

The following other existing recreational areas and facilities serve and are anticipated to continue serving the recreational needs of Newark residents:

(1) **Cedar Boulevard Eucalyptus Grove.** Located in the eastern commercial area of Newark near NewPark Mall, the main feature of this park is an historic eucalyptus grove. The park is intended for passive use, and there are no park improvements on its 3.2-acre grounds. The Newark Recreation Division has sponsored free Sunday afternoon concerts in the Grove each summer since 1987. The concerts serve not only as a community cultural function, but may also be an attraction to the shopping mall and nearby restaurants and food outlets.

(2) **Eucalyptus Grove on Jarvis Avenue.** Located in the northeastern part of the City on north side of Jarvis Avenue at the northern end of Cardiff Street, this historic stand of trees also is intended for passive use. It contains no park improvements on its 1.6 acre grounds.

(3) **Schools.** Newark is very dependent on schools for open space and recreation facilities, particularly playfields. By placing parks next to schools, both can benefit from expanded playfields. Schools are also valuable as neighborhood open space in areas which are not within a City park service area. However, schools are not a substitute for public parks because, with the exception of the MacGregor playfields, there are limitations on their hours of use and because their continued use as recreation facilities is not guaranteed. The City will continue to work and cooperate with the Newark Unified School District to ensure that schools continue to be available to serve recreational needs to the extent reasonably possible. *Figure 7-5* lists schools in Newark and their recreational facilities. The following schools and City parks are next to each other, thus enhancing the overall recreational services provided by the combined facilities:

- o Mayhews Park and Graham Elementary School
- o Mirabeau Park and H.A. Snow Elementary School
- o Bridgepoint Park and Lincoln Elementary School
- o Community Park and John I. Macgregor Intermediate School
- o Musick Park and E.L. Musick Elementary School

The City has entered into a 20 year agreement with the School District for the use of new playfields at MacGregor School. The City paid the costs for development and is responsible for maintenance. In this way, public recreational opportunities are expanded at minimum overall public cost. At the same time, the school maintenance costs are reduced, thereby providing additional funds to support public educational activities within the City.

(4) **Regional Parks.** Newark residents have access to two adjacent regional parks operated by the East Bay Regional Park District, which are in close proximity: Coyote Hills Regional Park and Ardenwood Regional Preserve. These parks offer passive and active recreational activities, including historic and naturalist programs, picnic areas, and hiking and riding trails. Newark supports the preservation and, as appropriate, enhancement of these regional facilities.

(5) **San Francisco Bay Wildlife Refuge.** The Wildlife Refuge, which borders the South Bay and partially extends into the City, operates a nature interpretive center just west of Newark. Access is from Thornton Avenue about one-half mile from the Dumbarton Freeway. From the interpretive center, hikers can follow boardwalks and old salt pond levees along Newark Slough and out to the Bay to observe birds and other wildlife. A range of environmental education programs and activities are offered at the center.

The U.S. Fish and Wildlife Service proposes to expand the boundaries of the Refuge by over 24,000 acres. It is recognized that the expansion could impact almost 3,000 acres of land in Newark. The

Figure 7-5
NEWARK UNIFIED SCHOOL DISTRICT RECREATIONAL FACILITIES

Schools	Recreational Acreage	Tennis Courts	Baseball/Softball Diamonds	Exercise Course	Children's Playground Equipment
Bunker Elem.	5.6		3	yes	yes
Graham Elem.	6.8		3	yes	yes
John F. Kennedy Elem	8.8		3	yes	yes
Lincoln Elem.	11.5		3	yes	yes
Louis Milani Sr. Elem.	7.0		4	yes	yes
E.L. Musick Elem.	10.0		3	yes	yes
August Shilling Elem.	7.4		4	yes	yes
H.A. Snow Elem.	8.1		4	yes	yes
Louis Ruschin Elem. (Closed)	6.9		4	no	yes
MacGregor	10.5		5	no	no
Newark Jr. High ¹	26.1	6	4	yes	no
Newark Memorial High ²	35.0	8	4	yes	no
Total	143.7				

1Newark Jr. High's recreational facilities include a swimming pool.

2Newark memorial High to construct a swimming pool in 1991-1992.

Note: All elementary schools include multi-use *playfields* and all high schools include multi-use *sportsfields*.

process of expansion is one of negotiation between federal agencies and property owners. It is the policy of the City of Newark, that all wetland and other areas set aside for the Refuge as a result of these negotiations be, as determined appropriate by the City, considered Conservation Open Space even though a different use may be shown on the plan diagram. This policy is established in light of the fact that much of the critical data that serves the negotiation process is not currently available to the City, and without such data it is not possible to establish wetlands or Refuge expansion boundaries on the plan diagram. Chapter 3 identifies the limits of uses possible under the Conservation Open Space designation and also identifies the lands that potentially could be impacted by Refuge and/or wetlands expansion.

(6) Private Recreation Facilities. Pursuant to AB 1600, the City has established, and will continue as long as permitted under state law, park in-lieu requirements. Under these requirements, residential developers may reduce the amount of their park improvement fees, required as conditions of development, by up to 50% when they agree to construct on-site park facilities. Most condominium projects in the City provide recreation amenities, such as swimming pools and tennis courts, for use by the residents (see *Figure 7-6*). Among the projects with such facilities are Foxwood, Cedar Glenn, Murieta, NewPark Village and Waterford. Further, as a result of the in-lieu program, on-site park and recreation facilities have been provided in planned unit developments projects. [The Nantucket housing project is an example. This 320-unit development near the southern city limits will have a 2,000 square-foot children's playground, a swimming pool, and open turf area. Another example is three small mini-parks (total of 1.5 acres) that will be constructed in new single-family subdivisions near Thornton and Willow.]

As of the fall of 1991, there were approximately 3,200 units in residential developments with private recreation facilities. Applying standards established in the City's Five-Year Forecast, assuming a household size of 3.3 persons for single-family units and 2.1 for multi-family units, the population in these residential developments totals approximately 9,700. Approximately 4.33 acres of private recreation area are in the developments. Thus, these private facilities increase the average recreation area per thousand, for the population served, by .44. It is clear that continuing requirements for such private recreation development is an important way to meet the overall recreational needs of the Newark residents. Further, such an approach ensures that facilities are readily available to residents and helps control public costs for improvement and maintenance of recreation facilities.

Although such private facilities provide relief for existing and planned public parks in the affected neighborhood, they are not accessible to non-residents because they are on private property. In addition to the park in-lieu fee, the City now requires either a dedication of land for public parks or payment of a fee for subdivisions under the Quimby Act. This should help to reduce the pressure for new neighborhood parks.

Special Recreation Facilities and Needs

Figure 7-7 inventories special recreational facilities available in the City and the present ratio of population for each type of facility. The figure also shows the "suggested" standards for several types of facilities, *Figures 7-1* and *7-5* describe the facilities available at each of Newark's parks, and the public schools. These suggested standards are included in this plan as a "target" reference based on current recreational trends and demands. However, they are not intended to be mandatory standards that must be rigidly pursued. Rather, it is intended that the Newark Recreation Division consider the standards in preparing improvement programs along with current surveys and analyses of the recreational needs of city residents, organizations, etc. Further, in considering the standards and developing improvement programs, the following should be recognized:

Figure 7-6
PRIVATE RECREATION FACILITIES

Development	Area (Sq. Ft.)	Facilities
Alderwood	6,000	Pool, spa, cabana
Baypark Apartments	8,700	Picnic area, pool
Bren*	11,761	Mini-park
Bridge Bay	3,600	Pool
Bridgepointe	3,200	Pool, grass area
Cedar Glenn	4,150	Pool, clubhouse
Citation*	9,583	Two mini-parks
Civic Terrace Condos	3,600	Spa and clubhouse
Foxwood	7,400	Two pools
Clyde Hobbs	1,431	Tot lot, lawn area
Jarvis Gardens	1,600	Two pools
Lake Island	14,400	Two tennis courts
Lexington Square	8,500	Pool, covered area
Lyon Condos	4,800	Volleyball, two tot lots
Murieta	14,400	Two clubhouses, two pools with spas
Nantucket Cove	8,712	Pool, tot lot
NewPark Village	8,916	Five pools with spas, two tennis courts
Nylen Apartments*	10,400	Recreation building, two raquetball courts, pool, spa
Quiet Village	6,000	Grass area
Summerhill Commons	19,100	Spa, sports court, pool
Waterford	32,406	Four tennis courts, pool, spa
TOTAL	188,659	Square Feet (4.33 acres)

*In accordance with conditions of project approval but not constructed as of October 1991.

Figure 7-7
PERSON PER PARK FACILITY 1989

<u>Facility</u>	<u>Number Available at City Parks</u>	<u>Average No. People Served By Each Facility</u>	<u>Number Available At Schools</u>	<u>Avg. No. Served, Including Schools</u>	<u>Suggested Standard</u>
Play Equipment	9	1/4,500	9	1/2,000	1/2,000
Softball Fields	4	1/10,000	20	1/1,700	1/5,000
Basketball Courts	4	1/10,000	unknown ¹		1/5,000
Soccer Fields	4 ²	1/10,000	10	1/2,900	1/4,000
Exercise Courses	2	1/20,000	0	1/20,000	
Tennis courts	8	1/5,100	16	1/1,700	1/2,000
Picnic areas	8	1/5,100	0	1/5,100	
Volleyball	0	n.a.	unknown ¹		
Fishing	1	1/40,500	0	1/40,500	
Boating	1	1/40,500	0	1/40,500	
Community Centers	2 ³	1/40,500	0	1/20,000	1/25,000
Swimming Pool	0		1		1/20,000 (25 meter)
Golf Course	0		0		1/50,000

1. The City Recreation Division sponsors volleyball and basketball programs, which are open to the public, at the Newark Junior High School gym. There are also basketball hoops at some of the elementary schools, which could be used by the public during off-school hours.
2. Three of the four included in the Sportsfield Master Plan have been built.
3. One of the two is included in the master plan for Sportsfield but has not yet been built. Newark also has a Recreation Center at Ash Street Park, which is not counted as it is a small neighborhood facility.

- o With Sportsfield Park completed, Newark will exceed the suggested standard for softball and soccer fields. However, this is only with the help of school fields. Many school playfields do not meet standards for regulation play, but they are suitable for practices.
- o Programs such as dance, arts and crafts, day care, preschool, and special activities are offered at the Newark Community Center and the Ash Street Recreation Center. The City of Newark has a Senior Center at its building on the corner of Filbert Street and Enterprise Drive. The building will allow expansion of senior programs which have been offered at a local church.
- o Pursuant to the suggested standards, Newark should have at least one community swimming pool (i.e., one for every 20,000 people), and an 18-hole golf course (i.e., one per 50,000 people) and a nine-hole golf course (i.e., one per 25,000 people). Although both a swim center and golf course can be justified on the basis of these standards, availability of these facilities in nearby cities should also be taken into account. However, plan goals provide for a swim center and golf course. The swim facility is proposed to be in Sportsfield Park. The golf course is to consist of a minimum of 120 acres in Area 4. (As noted previously, the addition of the golf course will increase the total number of acres of recreation area per thousand from 7.19 to 8.11.) It is also recognized that creative financing efforts and development programs will be needed to achieve both of these facilities. Further, wetlands may constrain golf course development opportunities in Area 4. Thus, detailed evaluations and planning will be necessary to make these facilities a reality within Newark.

This plan emphasizes that while the facilities listed in *Figure 7-7* may be typical of those offered by most cities, the City of Newark Recreation Division may elect to survey residents to ascertain their specific recreational interests so that specific additional activities and facilities can be offered or developed depending on demand. The Recreation Division could also offer experimental activities and publicize them in the Newark Recreation Newsletter. Additionally, special recreation programs and facilities should be considered for the benefit of special use groups such as the handicapped, seniors, and teenagers.

7.3 IDENTIFICATION OF PARK NEEDS AND OPTIONS FOR FILLING NEEDS

With the exception of a few residential pockets described below, all of Newark's population falls within the service radius of a *neighborhood park* (and a community park insofar as it serves a neighborhood park function). Newark more than meets the minimum recommended standard of 1 acre per 1,000 people for neighborhood parks, especially when the areas adjacent to schools and private recreational facilities are taken into account. To maintain this standard in the future, the city will need to add neighborhood park land as it adds new residential development. Newark's *community park* space is well distributed throughout the City. The service area of each community park encompasses both existing residential areas and areas of projected growth through 2007. The community park area is greater than the minimum standard of 2 acres per thousand. This includes the MacGregor playfields and assumes that The Lake park facility serves community as well as neighborhood park functions.

Neighborhood Park Land

Newark currently owns and operates approximately 1.7 acres of neighborhood park land for every thousand persons. If the facilities adjacent to schools and in private ownership are added to this total, the average increases to 5 acres per thousand. If The Lake at Lakeshore Park is excluded from the calculations, the City-owned neighborhood park acreage would be reduced to just over 1 acre per thousand which is still above the minimum standard. Further, two of the seven parks have fewer than five acres, the minimum size identified for a neighborhood park. To accommodate the anticipated 2007 population of 51,942, a minimum of 13 acres of neighborhood park land will be needed to maintain the minimum standard.

Two residential pockets are, however, under-served by neighborhood park land. These areas, and options for meeting the identified needs, are described below. In addition, other neighborhood park needs and proposals are described. It is recognized, however, that to effectively serve the needs of the proposed 2007 population, the existing neighborhood parks will need to be used more creatively in the future. This is the case since more people will be living in the service areas of the existing parks and options for expansion of the individual parks are limited.

1. **The corridor bounded by Mayhews Landing Road on the north, Thornton Avenue on the south, and the Southern Pacific Railroad tracks and Cedar Boulevard to the east and west, respectively.** The only available recreational space is at Schilling Elementary School which has 7.4 acres. This acquisition could fulfill much of the identified need for additional neighborhood park land. The City should give the highest priority for acquisition of these recreational acres. Also, in this area, three private mini-parks (.5 acre each) are planned west of Willow Street. The City should continue to require addition of recreational facilities with all new residential projects in this area to help off-set the identified need.
2. **The neighborhood in the southernmost residential area of Newark bounded by Cherry Street on the west, Stevenson Boulevard to the south, Mowry Plaza and Cedar Boulevard on the east, and the blocks south of Moores Avenue up to Quince Place as the northern boundary.** The Sportsfield Park service radius captures part of this area, but the park's primary intended use is for organized field sports although once completed it will be used for jogging and passive recreation activities, particularly by employees of the adjoining high-tech development. Because of a probable high level of adult use, Sportsfield Park will generate much vehicular traffic. This, combined with the park's location at the corner of two major arterials, will make bicycle and pedestrian access more hazardous for children. Private recreation facilities are provided in all of the new residential projects developed in the last ten years in this area, including Murieta, Waterford, New Park Village, and Nantucket Cove. The facilities in these developments are listed in *Figure 7-6*. Newark Memorial High School, also located in this area, provides 35 acres of public recreation space. The City should support preservation of the school recreational lands and also continue to require private development of recreational facilities within residential projects.
3. **One (1) new neighborhood park in conjunction with new residential development, Area 4.** The plan proposes one new neighborhood park in conjunction with new residential development in *Area 4*. This is needed to serve the residential development proposed in the area. *Area 4* is well removed from the existing neighborhood park system and accessible park space will be important to the qualities of development called for in the land use chapter for this area.
4. **Priority for public acquisition of surplus school sites, and land that becomes available adjacent to existing neighborhood parks.** In order to expand existing neighborhood parks, the City should continue its stated intent of acquiring surplus school sites as they become available. Further, priorities should be considered for acquisition of other private lands adjacent to existing parks, if such lands are offered for sale. As an option, the City might explore seeking donations of land from the private sector for expansions of existing parks.

Community Park Land

Newark currently has approximately 59 acres of community park land, or 1.7 acres per 1,000 persons. (This includes the unfinished portion of Sportsfield Park, but not Lakeshore Park. The average does include the MacGregor sports fields as a part of the Community Center Park). This is less than the recommended minimum of 2 acres per 1,000 persons. To serve the proposed population of 51,942 an additional 41 acres would be needed. Thus, most of the City's park land shortage is in the category of community parks. The projected need could be filled by one large new community park or by additions to the existing parks. The proposals for addressing the shortfall are:

1. A 14-acre expansion of Sportsfield Park, to be supplemented by expansion at other parks as surplus school or other land becomes available. Expansion of Sportsfield park may be possible in conjunction with development in Areas 3 and 4. Expansion of both *Community Park* and *Birch Grove Park* should be considered if practical opportunities present themselves. However, physical limitations associated with these sites and adjoining lands will need to be evaluated. As second priority for acquisition of surplus school sites, the City should plan to acquire the 10.3 recreational acres of MacGregor School (next to Community Park) and the 4.4 acres at Bunker Elementary School (next to Birch Grove Park) should school use be discontinued. [The City has developed playfields at MacGregor School under a 20 year lease agreement with the school district.] The expansion of Sportsfield Park along with the potential school acquisitions would fulfill the need for additional community park land. In the event that expansion of community parks is inhibited by lack of opportunity, some community park facilities would have to be placed in neighborhood parks, depending on neighborhood demands.
2. As needed and determined possible, locate some specialized facilities, typically found in community parks, in neighborhood parks. For example, a neighborhood park could have tennis courts if it serves a more adult service area and if the courts could be placed in full public view (and thus be better protected from vandalism). A railroad museum park in the Historic Newark area might also be considered to fulfill some of the community park need.

Another community park option that could be explored, would be the acquisition of land and development of a community park in Area 6. This would, most likely require allocation of public funds for purchase and development. The option could be constrained by wetlands. If such a facility were implemented, it would relieve the need for a separate neighborhood park in this area. However, due to anticipated wetlands constraints, and probable land costs, development of a community park in Area 6 is viewed as highly questionable.

Special Opportunities/Conditions for Park Expansion

The Historic Newark Area Plan (bound separately) recommends preservation of a parcel of land (see 1. below) in open space. In addition, state law provides cities with several planning and legal tools for the acquisition and development of park land. The following opportunities should be implemented to the extent possible.

1. **Historic Newark Area Plan.** The Historic Newark Area Plan proposes that a 3-acre parcel located in the triangle formed by the railroad junction near Thornton Avenue be set aside as open space and, in the short term, that it be cleaned up and landscaped. Although this proposed site would enhance the Historic Newark area, to maximize the park and recreation benefits to the surrounding neighborhood, the main focus for additional park land to serve this area should be at or near Schilling Elementary School as described above under *neighborhood parks*. Care will need to be taken in planning park access due to the need to cross railroad tracks in this area.
2. **City acquisition of surplus school sites.** Under Section 39390 et.seq. of the California Education Code, commonly known as the "Naylor Bill", cities may adopt a plan for the purchase of surplus school property for outdoor recreational and open space purposes. Newark adopted such a plan on March 8, 1984. This plan should be reviewed and updated on a regular basis for conformity with the General Plan and changing recreation conditions in this City. Priorities should be set based on identified deficiencies.
3. **Park Dedication/In-Lieu Fees Ordinance.** In March 1990, the City of Newark adopted an ordinance under the provisions of the Quimby Act. The ordinance requires either the dedication of land for recreation purposes or payment of a per unit fee based on the need for recreation generated by a residential use. Pursuant to AB 1600 (California Government Code Section 66000

et.seq.), Newark presently imposes a fee on residential projects to fund park land acquisition and improvement, as described under "Private Recreation Facilities." The City should continue to pursue the opportunities afforded by the Quimby Act and AB 1600.

7.4 RECREATION GOALS, POLICIES, AND PROGRAMS

GOAL. *Provide parks and recreation opportunities dispersed throughout Newark so that they can be safely reached and used by children and adults.*

Policy a. Set, and make all reasonable efforts to achieve, park standards to determine where and how much parkland should be provided in Newark.

Program 1. Overall within the City, provide at least 3.5 acres of parkland per 1,000 population.

Program 2. Provide one neighborhood park per 5,000 population, located within one-half mile of each residence.

Program 3. Provide one community park per 15,000 population, located within one to two miles of each residence.

Program 4. Provide, or support the provision of a one (1) public swimming pool per each 20,000 population, and one (1) public tennis court per each 2,000 residents located in a neighborhood or community park, or at a public school facility.

Program 5. As possible and appropriate, support the establishment and maintenance of a regional park within one-half hour drive. (Specifically, the City supports the preservation, and reasonable enhancement of the Coyote Hills Regional Park immediately adjacent to Newark.)

Program 6. Where constraints cannot be overcome to meeting the established park and recreation standards, develop alternative programs for providing the needed recreational activities within existing park and recreation facilities.

Policy b. Develop new Neighborhood Parks in locations where there is an existing or anticipated need.

Program 7. Develop a new Neighborhood Park in conjunction with any residential development of Area 4.

Program 8. Continue to require park land dedication and/or fees as authorized by state, or federal regulations (e.g., Quimby Act, AB 1600).

Program 9. Within permitted limitations, require park and recreation fees and/or dedications in conjunction with, and as necessary to service, new commercial and industrial developments.

Policy c. Develop small play lots as a condition of all new development, particularly in areas where insufficient recreation facilities exist.

Policy d. Provide more playfields near existing facilities, and expand the functional usefulness of existing facilities when current demands are no longer being met.

Program 10. Acquire additional land to expand the Sportsfield Park by at least 14 acres.

Program 11. Encourage private dedication or donation of lands adjacent to existing parks to expand such parks to at least the minimum size standards set forth in this plan.

Program 12. Concentrate resources to enhance the quality and function of existing facilities through such actions as expanded use-time through a wider range of programs and providing facilities and equipment for a wider variety of sports and activities.

Policy e. Continue working with the school district to develop playfields and make better use of space at schools currently in operation.

Program 13. Upgrade existing school recreation facilities.

Program 14. Better utilize space that is available at existing schools.

Program 15. Work with the school district to provide neighborhood recreation and playlots at existing school sites.

Policy f. Encourage and work with the school district to retain surplus sites, or at a minimum the field areas of sites, for parks and recreation use.

Program 16. Encourage, and if necessary assist the school district to maintain surplus sites, both field and building areas in good condition and available for public recreational use.

Program 17. Consider purchasing all or part (land and buildings) of surplus school sites if the school district sells them as surplus property. (Continue to set priorities and maintain programs for school site purchase pursuant to authorizing legislation like the "Naylor Bill".)

Policy g. Encourage, require and, where possible, purchase and operate, additional lands, equipment and facilities for public, or, as appropriate quasi-public, recreation use.

Program 18. Consider the use of financing programs for acquisition of park lands, recreational facilities, and recreational open space.

Program 19. Construct a new swim facility for community use which provides for community recreational swimming, lessons, swim club/team, lap swimming, therapeutic and aerobic exercise.

Program 20 Work with other agencies and private enterprise to determine where and how to develop a new golf course.

Program 21. Develop jogging, biking and walking trails within strip park-like lands, e.g. utility corridors.

Program 22. Investigate the feasibility of creating incentives for private individuals to dedicate parks (at least as interim uses).

Program 23. Encourage businesses and individuals to donate money or land for public open space and/or recreation use.

Program 24. Encourage and allow for interim recreational uses on lands designated for higher intensity uses when such interim use is necessary to support established or recreational programs for which a special need has been identified.

Policy h. Public utility easements should only be used for the purpose of the easement and/or open space.

Program 25. The Hetch-Hetchy right-of-way, where the right-of-way is adjacent to the rear of residential areas, shall only be used for water conveyance purposes and/or open space.

Policy i. Develop recreation programs and facilities for special user groups such as disabled persons, seniors, and teenagers.

**Chapter 8. COMMUNITY
SERVICES AND FACILITIES**

Chapter 8

COMMUNITY SERVICES AND FACILITIES

8.1 INTRODUCTION AND PURPOSE

A generally high standard of community services is provided within Newark. Based on surveys near the start of the plan period, citizens appear satisfied, for the most part, with existing services levels, and while the need for improvement is real, it is not extensive. In addition to City and privately-funded resources, there is quite a strong sense of *community* among the local population that results in an enthusiastic force of volunteers. This chapter describes the community services and facilities system of the City, reviews identified needs and sets the community services and facilities goals, policies and programs.

8.2 THE COMMUNITY SERVICES AND FACILITIES SYSTEM

The Newark system of community services and facilities, as well as identified needs are described in the sections that follow. The locations of existing community facilities within the City are shown on Figure 8-1. As with most communities, City officials would like to provide all of the services and facilities wished for by every resident. However, within the realities of limited resources and competition among special interest groups within the community, hard decisions must be made on which projects and programs can be supported and/or funded. The City Council has had to make difficult choices on such matters in the past and will need to continue to balance its basic responsibilities for protecting the health, safety and welfare of the citizens and providing the range of services that are needed and/or hoped for in the City.

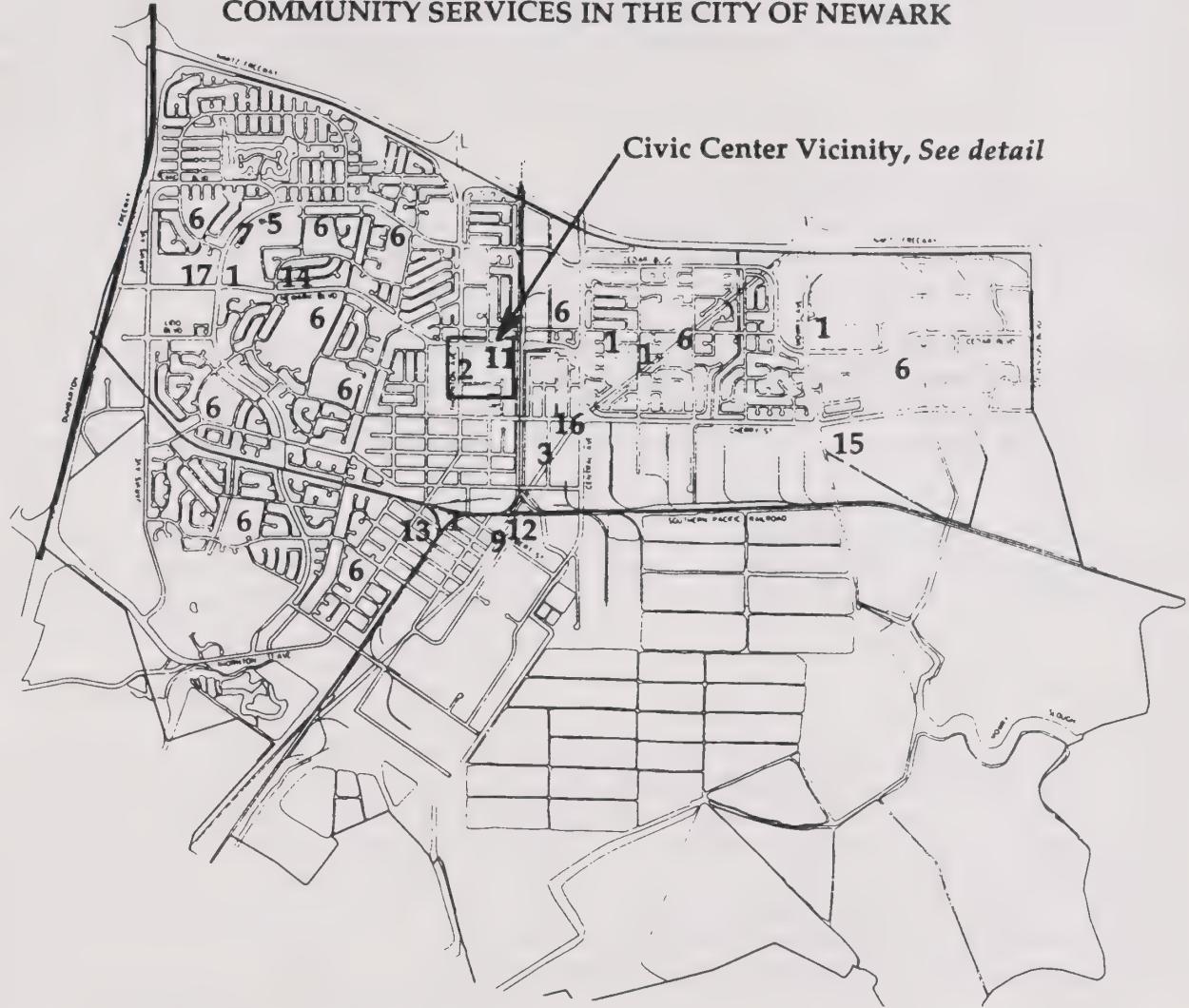
Physical Health and Mental Health Services

Physical Health. General primary medical care for all ages is provided through the *Newark Health Center*. The Center is owned by the City and operated and financed by the *Alameda County Health Services Agency*. There is a sliding fee scale for health services, but anyone can attend, regardless of ability to pay. [In 1990 there were an estimated 16,897 visits to the Center.] In-patient treatment is available at two County hospitals: *Fairmont Hospital* in San Leandro or *Highland Hospital* in Oakland. In addition, the County provides, upon request, public health teaching and medical supervision in the home or to groups or organizations, although "hands-on" care is available only through the private sector. Newark also has a number of private physicians, dentists, opticians and chiropractors. The two closest private hospitals are *Washington Township Hospital* in Fremont and *Kaiser Permanente Medical Center* in Hayward. *Kaiser Permanente* also has *Medical Offices* in Fremont. In addition, there are a number of private health clinics at several locations in Newark.

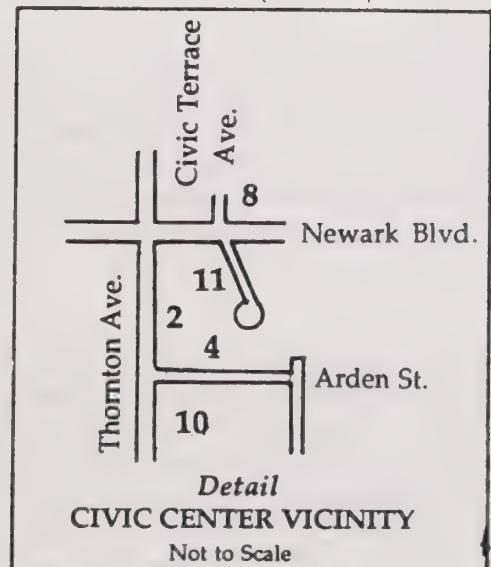
Mental Health. A counseling center is operated by *Second Chance, Inc.* which is financially supported in part through City and County funds and specializes in a broad range of problems, especially drug and alcohol-related problems. Psychiatric emergency and inpatient care is available through *Highland Hospital* in Oakland.

Issues and Needs. Newark does not have a major hospital, and there is some community concern that local health services are not complete without a hospital. At the same time it is recognized that public and private hospitals are within a short distance of Newark. The *Four Corners Area Plan*, Chapter 12, has space for a new medical clinic and establishes policy for continued discussions with local hospitals with regard to locating a satellite clinic in Newark.

Figure 8-1
COMMUNITY SERVICES IN THE CITY OF NEWARK



- 1 Existing Day Care Facilities (Not an exhaustive list)
- 2 Post Office, *also see detail*
- 3 Post Office (Proposed)
- 4 Library Facility, *see detail*
- 5 Continuation High School
- 6 School with day care facilities
- 7 Community Center with day care facilities
- 8 Newark Health Center, *see detail*
- 9 Newark Senior Citizens Center
- 10 Second Chance Inc., Crisis Center, *see detail*
- 11 City Admin. Building/Police Dept., *also see detail*
- 12 Newark Service Center
- 13 Fire Station #1
- 14 Fire Station #2
- 15 Fire Station #3
- 16 Emergency Shelter
- 17 Senior Housing



Scale: 1" = 4,000 feet



Some need has been identified for increased crisis/counseling facilities. However, according to the Director of the City's existing center, Second Chance, Inc., that service appears to meet current demands. It will be necessary, however, to monitor changing conditions and determine if additional services are needed, and how best they can be provided.

Seniors Programs

The City of Newark has helped develop a 150-dwelling unit housing project for low income seniors. The City owns one and one-third acres of land adjacent to these apartments for future expansion of the facility. It is estimated that an additional 50 units could be located on this adjacent site, and the plan provides for such expansion.

The Newark Senior Center is located 7401 Enterprise Drive. It has been in operation since October of 1989 and serves approximately 900 seniors per month. It is staffed by two part-time employees and 30 volunteers and offers a five-day-a-week lunch program, arts and crafts, games, medical informational services and certain health checks, trips and tours, and a variety of other special services and activities.

Issues and Needs. Specific needs that have been identified include a senior citizen health plan and affordable support services that enable senior citizens to remain in their own homes, such as community nursing and domestic services. In addition, there is a need for expansion of the existing Senior Citizens Center.

Child Care and Development Services

The Newark Recreation Division provides summer day care at the Newark Community Center from June through August for ages 5 to 12 and year round for children 3 to 5 years of age. The Newark Unified School District provides year round day care at one child care center and operates three child care centers from September through June. These centers care for Kindergarten through sixth grade students. Both programs provide subsidized day care for families who qualify. In addition, a number of private child care facilities are available year-round with similar hours and for similar ages. Alternatively, parents may take their children to licensed family day care homes for which an alternative payment program is available for low-income households; this program is available for families with infants as well as for older children.

Issues and Needs. Newark has a large number of young children, and in many households both parents are employed outside the home. As a result, there is a significant need for affordable child care facilities, especially among single-parent and low-income families. In addition, expanded after-school programs for children are needed. Further, there is a need for day care to be available for parents who work longer hours and on weekends. A new 3,000-square-foot building is under construction at the Community Center and this addition will be used as a child care facility.

Education

The Newark Unified School District (NUSD) currently has 8 elementary schools, one junior high, and one high school (Newark Memorial), and a continuation high school (Churchill Continuation School). Most of the District's schools were built at a time when school enrollment figures were higher and before recent residential development occurred in the south and southwest parts of the City. The situation at the beginning of this plan period is that there is an excess capacity of schools relative to demand with facilities concentrated towards the northern part of the City. A broad range of adult education classes is also offered by NUSD.

Issues and Needs. While there is excess school capacity in general, there appears to be a need for more schools in the growing south and southwest parts of the City, Area 4 in particular. Further, new development in Area 6 could generate the need for expansion of classroom space at the Lincoln School.

School impact fees have been enacted by the NUSD pursuant to State authorization that help off-set the impacts of new development. Such fees should address the impacts of growth, particularly in Area 6. With respect to development in Area 4, it is recognized that a new school will most likely be needed to serve the anticipated population growth. Therefore, as part of the Area Plan effort, required as a prerequisite to Area 4 development, the need for a new school site will have to be fully evaluated. If a new site is needed, the Area Plan should provide for it.

Leisure and Cultural Enrichment

A number of classes and cultural events are held at the *Newark Community Center*. The City also sponsors a series of weekend summer concerts in the Eucalyptus Grove. Cultural programs can also be presented at the 400-seat Newark High School auditorium. The Newark Arts Council and Fremont-Newark Philharmonic provide entertainment programs. SCAN, a local theater group, presents plays year-round. There are also a number of private clubs and associations covering a broad range of interests, including two historical societies. In addition, Newark has one movie theater containing seven screens.

The City newspaper is *The Argus* (covering Newark, Fremont and Union City), while the City government, Chamber of Commerce and NewPark Mall all publish their own newsletters providing information on upcoming events and resources available within the community. Cable television, Channel 6, is based in Newark, and the City broadcasts its own programs, including City Council and Planning Commission meetings, on Cable Channel 3. The County operates a branch library in Newark in a building owned by the City. The City's recreational facilities are considered separately in Chapter 7 of this Plan.

For teenagers, NUSD provides after-school sports and extracurricular activities at the District's school sites throughout the year and a number of classes and sports activities are provided by the City's Recreation Division. There is a community sports program that also provides organized soccer, softball and baseball leagues that are active throughout the year. In general, there is a strong emphasis on sports and recreation facilities.

There are several senior citizens clubs but their hours are very restricted. There is a senior center with normal service hours.

Issues and Needs. Identified needs include: the promotion of cultural events, and enhanced services to Newark's senior citizens, particularly in recognition of the aging population. Further, there is an identified lack of organized teen programs such as youth clubs or centers to serve teens.

Other needs that have been listed include; a second community center which is in the conceptual design stage; the expansion of the Civic Center complex and the Ash Street Neighborhood Center; the construction of a City museum and the expansion of the senior center. The senior center expansion has been authorized by the City Council and is in the design stage with completion of construction scheduled for Summer 1992.

A number of citizens have expressed interest in the establishment of a performing arts center in Newark. The Newark Memorial High School theater and the Eucalyptus Grove now serve as venues for Newark performances. Cultural facility guidelines generally suggest a cultural center for 50,000 population. Newark's current population is nearly 38,000 and is projected to increase to over 48,000 by the year 2007. Thus, opportunities for such a performing arts center should be explored.

Emergency Services

Police and Fire Protection services are provided by City government. Newark Police Department (NPD) is staffed with 55 sworn officers that in 1990 dealt with 2,922 Part 1 crimes (murder, rape, robbery, assault, burglary, larceny and auto thefts). Newark Fire Department (NFD) operates three fire stations with a total of 34 non-administrative personnel and five engines. The City of Newark and Union City also lease space in an animal shelter from the City of Fremont. The shelter is located in Fremont.

A 24-hour crisis center is run by Second Chance, Inc., subsidized in part by City and County funds. This center includes a "temporary" 30-bed shelter open to all except those under the influence of drugs or alcohol or suffering from a severe psychiatric illness. Salvation Army Food Distribution Center provides service to people in need of emergency assistance. The Viola Blythe Center also services those in need. The City of Newark provides the buildings for both Second Chance and the Viola Blythe Center.

Issues and Needs. Identified needs include development of a crisis/counseling center and enhanced paramedic services. Ambulance and paramedic services are provided by Regional Ambulance under contract to the City. The contract for ambulance service should be reviewed on at least an annual basis to ensure that services, ambulance locations and costs are consistent with the needs of the citizens of Newark.

Other Issues and Needs

Other community services and facilities issues and needs that have been identified include the promotion of interaction with local governments/cities, the encouragement of organizations to seek funding from Federal sources/grants; and construction of a new Post Office.

Responsibility for Providing Services

A critical issue relative to many of the identified community services and facilities issues and needs is who will provide them; or, more directly, who will pay for them. The three basic options appear available:

County. Alameda County has traditionally had the responsibility for administering and paying for public health services. As the County is faced with ever tighter budgets, it has been forced to consider cutting back on health services. Residents of Newark cannot expect that the County will always be able to subsidize health programs. Efforts may be needed to find alternative ways to finance these services. All funding programs should be carefully monitored and actions taken to protect services *before* current funding sources are lost.

Private. Most forms of health, child care, and leisure/cultural services are not government sponsored. Yet, at prevailing costs, they are out of the financial reach of low, and many, moderate income families. Therefore, it is recognized that it is not possible to rely entirely on privately offered social services to provide for all individuals or families that reside in Newark.

One form of private support for community services is private volunteer efforts and donations. Much of the sports and some of the social services are provided by different volunteer groups. In many Bay Area cities, cultural and arts programs are organized by representatives of local businesses and paid for through a combination of corporate and private foundation donations. Such options should be pursued for Newark.

The City of Newark. The City's principal social services role has been one of creating the facilities in which such services are offered. This has been the case of the Health Center, the Second Chance

facility, child care in the Community Center, Newark Senior Citizens Center and the Senior Housing apartments. With the exception of the Senior Citizens Center, the City has not played a major role in the provision of the services offered in its building used for social services and discussed above. However, if the County reduces its social services role or if private sponsors do not provide services for low/moderate income households, the City may have to consider filling some of the voids. If the City is to move in this direction, it will have to establish priorities for funding while taking into account its more traditional responsibilities including police, fire, roads, parks, etc.

8.3 COMMUNITY SERVICES AND FACILITIES GOALS, POLICIES AND PROGRAMS

GOAL 1. *Maintain a variety of community services and facilities in Newark that are readily available and respond to the needs of all Newark residents.*

Policy a. Provide physical and social services to groups and individuals with special needs .

Program 1. Coordinate a volunteer effort with civic organizations to provide services to frail elderly persons.

Program 2. Develop and seek funding for a transportation system for elderly and physically handicapped citizens.

Program 3. Develop a network of elderly volunteers to provide peer counseling, home visits and respite care for homebound elderly.

Policy b. Respond to changing needs for physical and mental health services as the composition of Newark's population changes.

Program 4. Maintain demographic data published by various state and federal agencies to use in evaluating the social needs of the community.

Policy c. Maintain and expand, where necessary, physical facilities needed to provide for the needs of the community.

Program 5. Extend facilities for Newark Senior Citizens as the demand for service increases.

Program 6. Utilize and promote preventive maintenance practices to preserve public facilities.

Program 7. Improve the efficiency of the Senior Case Management service through the development of a data base to coordinate the provision of senior services, and encourage the development of such a data base on a tri-City or larger area basis.

Policy d. Ensure that the public is aware of preventive health care services available in Newark and in nearby cities.

Program 8. Regularly disseminate information about services available at the Newark Health Center and at other Alameda County health facilities through City newsletters, cable television, Radio Newark, and local schools.

GOAL 2 *Provide leisure and cultural programs and facilities for the benefit of Newark residents, employees and visitors.*

Policy a. Develop facilities for live performances, cultural programs, and leisure activities.

Program 1. Provide a center for performing arts and for cultural activities. Options for such a facility should be explored, including the development of a center as a joint effort with a neighboring community.

Program 2. Work with the Newark Unified School District to use the theater at the high school and other multi-use facilities in the schools for music, dance, and other programs.

Policy b. Actively support cultural programs, such as the concerts in the Eucalyptus Grove and the Music Appreciation Program.

Policy c. Encourage expansion of Ohlone College community services.

Policy d. Assure that the library continues to offer the services needed by Newark residents at the hours desired.

GOAL 3 *Obtain the assistance of other public agencies and private organizations in providing community facilities and services.*

Policy a. Encourage private non-profit and volunteer organizations to provide or subsidize community services, such as health care, crisis intervention and treatment services, and leisure and cultural activities.

Policy b. Continue to support services and facilities provided through Alameda County such as the Newark Health Center and the Second Chance, Inc. counseling.

Program 1. Work with Alameda County Health Services Agency to monitor demand for subsidized health care in Newark and plan for expansion of facilities and services as needed.

Policy c. Encourage the Newark Unified School District to consider community needs in planning for new school sites.

Program 2. Work with the school district to seek out, and to designate, if possible, sites adequate for a combination school and neighborhood park, when new schools are needed.

Program 3. Encourage the school district to locate elementary schools within the neighborhoods which they are intended to serve and to make them accessible to nearby residents.

Program 4. Work with the school district to gain public support for public financing of additional schools and school facilities when necessary.

GOAL 4 *Expand child care opportunities in Newark.*

Policy a. Encourage the establishment, in appropriate locations, of additional reasonably-priced, high-quality child care facilities to meet the needs of Newark residents and employees.

Program 1. Work with major existing and new employers in Newark to determine the possibility of their providing day care facilities and services or subsidizing day care services.

Program 2. Work with the Newark Unified School District to expand after-school day care services and facilities at existing schools as needed.

Program 3. Encourage local churches to provide day care services and facilities.

Program 4. Provide a variety of day care services, including day long child care.

Policy b. Provide additional information to the community about existing child care facilities and resources in Newark.

Program 5. Assemble, and continually update, a list of all Newark child care providers, the age-groups they serve, hours of operation, location, and other pertinent child care information.

Program 6. Work with the Alameda County Child Care Coordinating Council and other agencies to improve the availability of information about child care resources in Newark.

Chapter 9. ENVIRONMENTAL SAFETY

Chapter 9. ENVIRONMENTAL SAFETY

9.1 INTRODUCTION, PURPOSE RELATIONSHIP TO OTHER CHAPTERS

This Chapter sets forth the goals, policies and programs that the City will pursue to maintain and enhance environmental safety for those who live, work, shop and otherwise spend time in Newark. A high level of safety is recognized as critical to maintaining the quality of life within the City that has played an important part in drawing residents to the community.

This Chapter addresses earthquakes and other potential geologic hazards, emergency response, e.g., fire, police and medical, and hazardous materials transportation and storage. Some of the goals, policies and programs address safety from flood hazards; however, much of the description of the flood conditions is contained in *Chapter 6, Open Space and Conservation*. Many of the other Chapters of this plan also address issues that will help ensure environmental safety. In particular, reference should be made to the following chapters with regard to specific issues:

Chapter 6, Open Space and Conservation Chapter

- Water quality and sewage disposal
- Flood hazard areas
- Soils

Chapter 8, Community Services and Facilities Chapter

- Fire and Police levels of service
- Medical services

Chapter 10, Noise

- Protection from noise

The goals, policies and programs set forth a variety of actions for improving community safety that are not necessarily described in detail in this chapter, e.g., property maintenance, animal services, etc. These actions are listed because they are viewed as necessary to rounding-out the safety objectives of the City.

This chapter also recognizes the extensive background analyses and descriptions contained in the 1973 *Newark, Seismic Safety and Safety Element*, prepared by Earth Sciences Associates. Much of the discussion in this document is still valid and serves as the basis for the summary statements on seismic and geologic hazards contained in this chapter. However, it is also recognized that the October 17, 1989 Loma Prieta earthquake has had a significant impact on the estimates of future large earthquakes within the Bay region, and particularly along the Hayward fault. Because of the proximity of the Hayward fault to Newark and because the City is within the area of the San Andreas Fault system, this plan recognizes that seismic safety must be an essential element of all future land use evaluations.

9.2 DESCRIPTION OF ENVIRONMENTAL SAFETY CONDITIONS

Newark is prone to two types of major types of natural disasters: *earthquakes and flooding*, that must be accounted for in land-use decision making. *Fires* are also a threat, but the conditions within the City do not make it an unusual problem. However, rapid and effective response during a fire, or other emergency must be continually planned for.

While no significant faults traces have been identified within Newark; soils conditions and the fact that the City is within the San Andreas Fault region, make earthquake hazard planning essential. Much of the low-lying undeveloped areas that form the western and southwestern edge of the City, including the salt ponds, are within the 100-year flood zone or are situated on soils where there are some pockets of loose sand or Bay mud. Also, several drainage channels that cross through the developed portions of the City are within the 100-year flood zone. These areas have a higher potential for flooding, and/or soil instability during an earthquake. Further, earthquake ground shaking, particularly during a major event, will affect all areas within the City to varying degrees. Future land uses need to be carefully considered in order to minimize risks to human safety and property damage.

Though the exact locations and timing of a natural disaster are impossible to predict; the City, fortunately, has established building construction standards, including the Uniform Building Code (UBC) and a floodplain ordinance, which are intended to limit the potential damage that could result from earthquakes, floods or fires. In addition, the city has established emergency planning procedures, including emergency response efforts to provide for public safety during a disaster.

The descriptions that follow deal with the conditions that the City must take into account in implementing the goals, policies and programs set forth in this chapter. Further, the descriptions help establish the framework for the implementing actions the City will pursue during the planning period.

Seismic and Geologic Safety

While no active earthquake faults are known to pass through Newark, earthquakes on the nearby *Hayward*, *San Andreas* and *Calaveras Faults* are significant threats to future damage. Two types of impacts are likely to occur as a result of earthquakes on these faults: ground failure and ground shaking. Ground failure, in the form of liquefaction, is the most likely impact to occur in some of the flatland areas immediately adjacent to the Bay. Similarly, ground shaking is predicted in the areas of more solid ground to the east of the flatlands where a majority of the residential and commercial areas currently exist.

The sections that follow, provide a brief overview of the geologic setting of the City and describe the seismic and geologic hazards that Newark faces. (For a more complete discussion of these conditions refer to the 1973 *Seismic Safety and Safety Element of the Newark General Plan*, Earth Sciences Associates.)

Geology and Physiography. The City of Newark is characterized by an alluvial plain sloping gently westward toward the Bay at a gradient ranging from 10 to 20 feet per mile, with little topographic relief. Along the extreme western margin of the City are marshlands, reclaimed marshlands, sloughs, and salt evaporation ponds. Ground elevations range from less than 5 feet on the west nearest the Bay to approximately 37 feet at the northern edge of the City adjacent to the Nimitz Freeway. Underlying the City are deep deposits of sand, gravel, silt and clay alluvial and fluvial soils which were eroded from the hills to the east and deposited by streams and rivers flowing into the valley. The thickness of these alluvial, or stream deposited soils is on the order of 600 feet but thins to approximately 100 feet near the Coyote Hills. Resting upon these thick alluvial deposits along the western edge of the City are relatively shallow, fine grained deposits of organic-rich clays and silts (with some sands locally) that were deposited in poorly drained depressions between streams (interfluvial basin deposits) and marshy areas along the edge of the Bay.

Geologic conditions within the City have given rise to some land development challenges. In particular, adobe clay soils which are found within the City are classified as "expansive," which means that they tend to shrink or swell with changing seasonal moisture conditions, thereby posing potential for damage to building foundations and pavement sections. Soils on the western margin of

the City tend to be rather soft and compressible, and special foundation design may be necessary to mitigate for potential damage from uneven settlement of structures.

Seismic Hazards. It is recognized that earthquakes will continue to occur, as in the past, along the San Andreas, Hayward, Calaveras and other active California faults. Further, many geologists and seismologists caution that there is a relatively high probability of a large, or even a great earthquake along the San Francisco Peninsula segment of the San Andreas Fault, and along the Hayward Fault within the next 20 to 30 year period. Estimates of probability have increased in the aftermath of the October 17, 1989, 7.1 magnitude, Loma Prieta earthquake. Other, lesser shocks are possible, although there is some evidence that large, infrequent earthquakes, rather than small, more frequent shocks, are characteristic of the San Andreas - Hayward - Calaveras fault system in the Bay Area.

While it is true that for large earthquakes the intensity of ground shaking is greater within a few miles of the earthquake-generating fault than at great distances (say 30 or 50 miles) from the fault, this general rule does not apply within as small an area as the City of Newark. The Hayward fault is located about 2 miles northeast of Newark's eastern border, the Calaveras fault is located beyond the East Bay Hills about 9 miles northeast of Newark's eastern border, and the San Andreas fault is located in the foothills about 13 miles west of Newark's western border. Although the western border of the City is about 6 miles from the Hayward fault and therefore three times more distant from the fault than the eastern border, about the same amount of energy will be transmitted throughout the City. What matters more from the standpoint of seismic hazards are the types of soil deposits, particularly saturated soils, which are found beneath the ground surface. Thus, within the City, an earthquake could be felt as a sharp, relatively rapid vibration or a swaying rolling motion; it could have no permanent effect on the ground, or it could trigger slumping near water bodies or loss of support capacity beneath structures. These important differences would be principally a function of local soil and ground water conditions, and not distance from the fault.

Based on the foregoing, it appears reasonable to assume for planning purposes that the City of Newark may be subject to one or more great earthquakes within the plan period. Moderate earthquakes are also likely, but are of less significance from a planning standpoint because their effects are overshadowed by the more serious effects of the great earthquakes.

The potential risks in Newark from various earthquake affects are described below. These descriptions are primarily from the 1973 Seismic Safety Element, but are still relevant with respect to the current planning period. In addition, *Figure 9-1*, provides an interpretation of local geologic units in terms of their estimated relative damage potential due to seismic induced forces. The interpretation was developed as part of the 1973 Seismic Safety Element. The areas with the greatest susceptibility to ground shaking are located in the western and northwestern portions of the City. This susceptibility analysis should be used as a basis for more detailed investigations of ground shaking susceptibility problems. This analysis should be prepared to guide decisions on specific land development projects. In most cases engineering solutions will be available to mitigate the potential problems associated with a specific development proposal. However, care will have to be taken to ensure that appropriate investigations are conducted and mitigation measures identified and implemented. Existing project review procedures, including subdivision and building permit requirements, should be adequate to ensure that appropriate measures are identified and implemented.

1. **Ground Rupture.** There are no known active faults traversing the City of Newark. Previous analysis (i.e., 1973 Seismic Safety Element) indicate that the possibility of ground rupturing within the City is remote. As a result of this analysis, and associated recommendations, there appears to be no need for fault line associated planning efforts (e.g., microzonation) within the City.

2. **Ground Failure.** Strong ground shaking can induce phenomena that may indirectly cause substantial ground movements and result in damage to structures. These phenomena include lateral spreading, landsliding, differential compaction or settling, ground cracking, and liquefaction.

Soil Liquefaction. Soil liquefaction results from a loss of soil strength during earthquake ground vibrations. Soils that are most susceptible to liquefaction are clean, uniformly graded, loose, saturated, fine grained sands. Factors most influencing potential for liquefaction are degree of water saturation, density, and grain-size characteristics of the soil deposits. *Figure 9-1* indicates that soils within Units I and IIa should generally not be subject to earthquake-induced liquefaction because of their generally cohesive character and considerable depth to the ground water table. Conditions adjacent to lakes and creeks are slightly more suspect due to the ground water table likely being closer to the ground surface and the possibly greater potential that loose sandy soils may exist.

There is a slightly greater hazard of local liquefaction-type failures occurring within Soils Units IIb, III, and IV due to the presence or possible presence of localized loose lenticular sand deposits, a relatively high ground water table, and the reported occurrence of several local liquefaction-type ground failures during the 1906 earthquake. Also, the hazard of potential liquefaction failure is relatively greater near water courses due to shallower ground water levels.

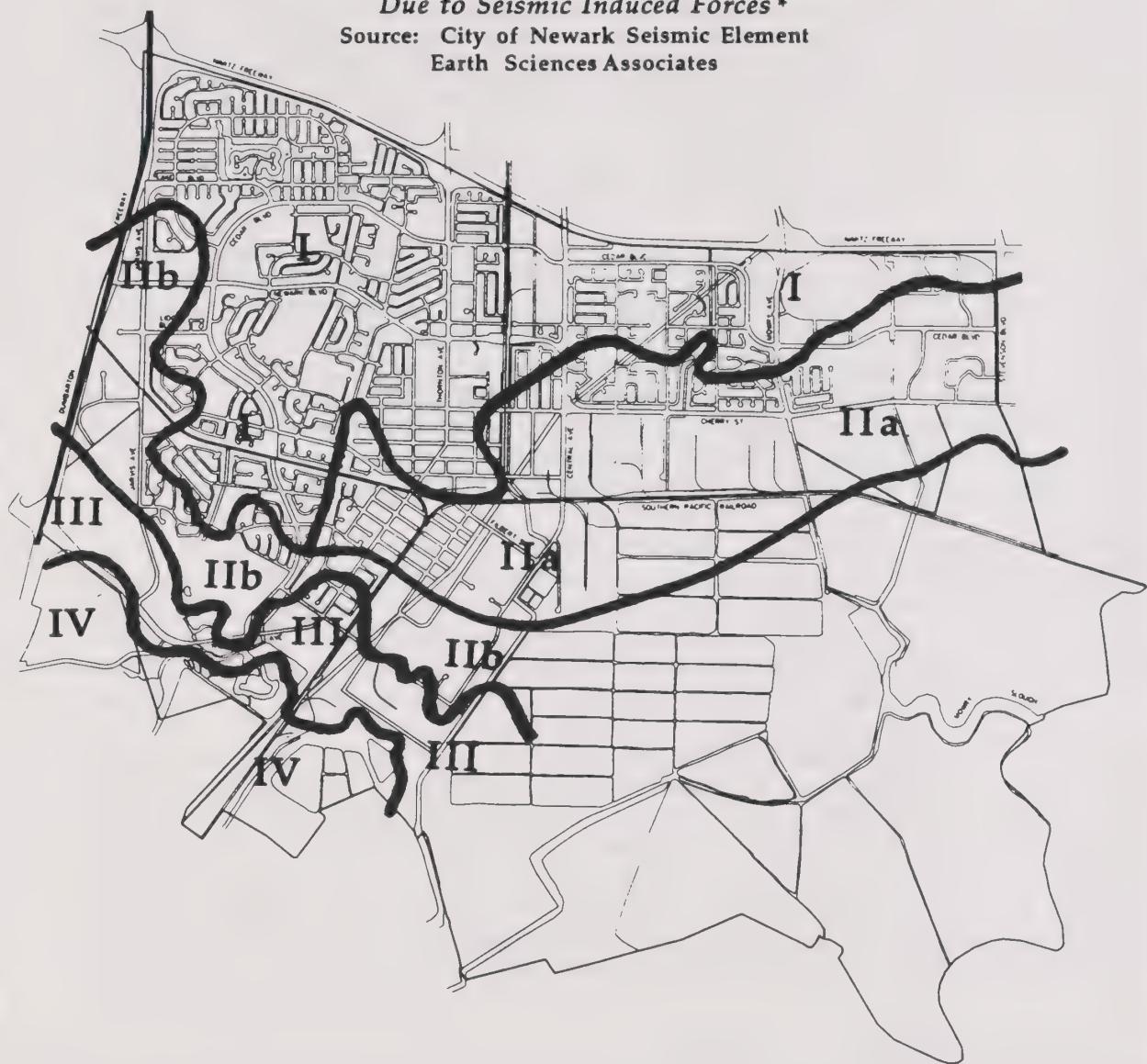
Landslides. The possibility of earthquake-triggered landslides occurring within the City has been identified as "unlikely" (1973 Seismic Safety Element) because of the relatively flat topography. Some soils units along the western boundary of the City (see *Figures 6-2* and *9-1*) may be relatively more susceptible to local slumping than other units. However, the risk of significant landsliding within the City is not a significant planning issue.

3. **Ground Shaking.** Experience from previous earthquakes suggests that the nature of ground motion is strongly affected by the type and thickness of underlying soils. Detailed soil investigations, including borings, are necessary to evaluate individual sites. However, broad generalizations can be made regarding the estimated relative damage potential (due to induced seismic forces) for each different soils units. As noted above, soil conditions along the western portions of the City appear more prone to significant ground shaking than areas to the east. It is essential that every development proposal be evaluated in terms of specific site soils conditions and that building designs and locations be adjusted as may be necessary to ensure that risk from ground shaking is kept to acceptable levels to protect life and structures. Further, no critical facilities should be placed in a location that is susceptible to significant ground shaking unless it is found that building and/or site design measures effectively mitigate risks. *Figure 9-1* provides guidance in directing investigations to identify and address ground shaking related problems. This figure offers broad generalizations regarding the estimated relative damage potential, due to induced seismic forces, for each soil unit shown on the figure. Soils with larger Roman numeral values denote a somewhat higher estimated seismic hazard.

It is also recognized that where ground shaking is possible, safety hazards arise when parapets, signs or overhangs could fall during an earthquake. Current building code requirements will help ensure that these features do not present safety hazards in new construction.

4. **Tsunamis and Seiches.** Tsunamis are sea waves generated by earthquakes. These waves have been known to cause serious damage at coastal locations in Alaska, Japan, Hawaii, and, California. Tsunamis usually occur shortly (a few minutes to a few hours) after a nearby or distant earthquake and appear as a rather rapid rising and falling of sea level over a period of several minutes or hours. The tsunamis risk in Newark has been evaluated (1973 Seismic Safety and Safety Element) and it has been concluded "... in the Newark area, that the temporary rise in

Figure 9-1
ESTIMATED RELATIVE DAMAGE POTENTIAL
*Due to Seismic Induced Forces **
 Source: City of Newark Seismic Element
 Earth Sciences Associates



Geologic Units

Increasing Seismic Hazard 

- I Alluvial Deposits
- IIa Fluvial Deposits
- IIb Fluvial Deposits
- III Interfluvial Basin Deposits
- IV Marshland Deposits

 Geologic contact between soil types

Notes:

- 1. Geologic units adapted by Earth Sciences Associates from USGS MF 429.
- * 2. Refer to Appendix ES-A for tables describing geologic conditions and seismic hazards.

Scale: 1" = 4,000 feet



sea level due to a tsunami will not create any more serious consequences than an ordinary . . . high tide."

There are no records of significant seiches, or local water waves generated by earthquakes, occurring in the Bay in historic times, and the configuration of the shoreline and depth of water offshore are such that this hazard is judged to be not significant to the City. The small, ornamental lakes and ponds within the City do not constitute a significant seiche hazard.

Minimizing the Effects of Seismic and Geologic hazards. The following conditions, actions and programs will help minimize the effects of seismic and geologic hazards.

1. **All New Construction** The City adapts and implements the Uniform Building Code (UBC) to ensure that all new structures meet the most current construction standards. The UBC is routinely updated as new data is collected, new products developed, design and construction techniques advanced, and evaluations made on the response of structures to earthquakes. The City is committed to making use of the most up-to-date version of the building code that is available. Industrial, commercial or high occupancy buildings and all structures of any significant size should be required to be individually analyzed by an engineer at the design stage taking into account the unique conditions of the building and use and the project site. The design engineer should also assure that construction is carried out in accordance with the design requirements.

For development in the western part of the City where soils are more prone to ground shaking (see Figure 9-1), the City should continue to require a detailed soils report by qualified geologists/soils engineers and new construction must comply with the UBC, as well as any special requirements the geologists or soils engineering consultants may recommend. The City should also continue to require that residential streets and homes be above the flood plain and that industrial buildings be constructed on building pads that are above the flood plain.

Checking of plans for earthquake adequacy may, in some cases, require specialized structural engineering or geotechnical engineering skills which are not available in-house. In such cases, checking may require use of outside contract consultants. This policy is also currently utilized in the City and should continue under the provisions of this plan. Further, the City Building Inspection Division should continue its practice of requiring an engineer-of-record and specific soils and/or geotechnical report for construction projects as described above. The Building Inspection Division should also continue its practice to require that soils engineering reports covering sites below Elevation +10 deal specifically with seismic hazards, especially potential for soil liquefaction.

This plan also recognizes that in some cases, while engineering solutions may be available, the costs needed to mitigate potential damage from flooding or earthquakes may be so prohibitive that they make development impractical. In such cases, it is assumed that the land will remain undeveloped until such time as economic conditions support land development.

2. **Existing Buildings and Other Structures.** The City will continue its programs for identifying and requiring modification to eliminate unacceptable hazards associated with existing buildings and other structures. Based on surveys, the City does not contain any structures of unreinforced masonry or other inferior construction which would constitute obvious, immediate threats to public safety. However, there may well be some buildings which fail to meet modern structural code standards and which may be susceptible to earthquake damage. The City should continue its program of requiring appropriate, structural upgrading of existing buildings whenever applications for building or use permits are filed.

Other, potential problems and solutions include:

Possible shifting of homes on foundations. This problem can be minimized through structural connections between the house frame and foundation. Most homes in Newark incorporate this code-required feature. The owners of older homes that do not should be encouraged (e.g., using the City newsletter, etc.) to make the necessary modifications.

Damage to masonry chimneys or facade. Damage or toppling of unreinforced brick walls or chimneys commonly occurs in strong ground shaking. Reinforcement and chimney ties are provided in contemporary Newark houses. The owners of older homes that do not have such reinforcement and ties should be urged to make the necessary modifications through general information sources like the City newsletter.

Falling of unbraced water heaters, with possible fire hazard. Current codes require bracing of all water heaters. All residents and building owners should be urged to brace or otherwise tie down water heaters through general information sources like the City newsletter.

Older Structures. In the older parts of the City, one and two story wood-frame and stucco building types are expected to show reasonable performance in earthquakes. No heavy masonry parapets have been identified above heavily used pedestrian walks.

Industrial Development. Much of Newark's industrial development is located on soils units that are expected to be subject only to the effects of ground shaking. However, some older industrial facilities are located on the west side of the City, near the area where some possibility of soil liquefaction exists, and related damage could be expected, if no special provisions are taken. The City urges all building owners to evaluate their own situations and, where found necessary, to take corrective actions to protect life and property.

City Buildings, Schools, and Public Assembly Buildings. The seven story City Administrative Building is of modern design, and is located in an area which appears to be free of unusual hazards such as faulting and soil liquefaction. The principal hazard at the site is probably strong ground shaking. The degree of damage which might be sustained, and hence the loss of post-earthquake usefulness, depends to a degree on the extra provisions which were provided in design and construction. The reason for this is that mere satisfaction of minimum code requirements does not assure that the building will be operational following an earthquake (although it does usually assume that the building won't collapse catastrophically). Hence, the availability of the City Headquarters for use as a fully operative post-earthquake operations center depends upon the special structural criteria which were employed in its design. The City will continue to monitor conditions with the building to ensure, as possible, it is operational in the event of a major disaster.

Newark's schools, being post-Field Act (see box on next page), are expected to be designed to the special anti-earthquake standards which are established and enforced at the State level. Within California, performance of school buildings designed to these standards has generally been satisfactory. Further, the standards are up-graded as new data becomes available. For example, requirements now exist for more detailed investigations of school sites which include analysis of these potential site hazards. The City encourages the School District to continue to monitor its facilities to ensure that all its buildings are earthquake safe.

Principal public assembly buildings which could have periods of temporary high occupancy (i.e., exposure of large numbers of people to possible failure hazards) and which also might be considered as temporary centers of earthquake recovery operations, include the Newark Jr. High and Memorial High Schools. These structures are located on relatively stable soils and neither is in an area identified as having any special seismic hazards beyond that of earthquake shaking. Newark Junior High School was built in 1962, and Memorial High School in 1972. Both of these

structures are presumably designed to meet special State standards for schools, and accordingly, should be representative of modern earthquake-resistant design.

Field Act (Seismic Structural Safety of Schools)

The Field Act, whose provisions are in the Education Code of the State of California, was enacted after the Long Beach Earthquake in 1933 and is implemented by the Office of the State Architect. It requires that all new public school construction incorporate seismic safety standards. The Act provides for (1) standards, (2) designer credentials, (3) independent State review, and (4) independent construction inspection.

The Garrison Act (1939) expanded the scope of the Field Act to provide for the corrective steps a school board should take in evaluating and strengthening school buildings. The Green Act (1967) required that a structural examination and safety determination of pre-Field Act schools be accomplished by January 1, 1970. In 1968, a requirement was added to prohibit the occupancy of unsafe school structures after June 30, 1975. In 1974, a two year extension was added to the June 1975 due date.

Source: *Hazard Mitigation Opportunities for California*, January 1991, The State/Federal Hazard Mitigation Survey Team Report for the Loma Prieta Earthquake October 17, 1989.

Other high occupancy assembly buildings include the Newark Pavilion, the Newark Community Center, Newark Senior Center, Newark Library, and NewPark Mall Regional Shopping Center. The Pavilion is located on stable soils and has wood-frame walls supporting a glued, laminated arch roof with tie-rods, and with interior timber columns. The Newark Community Center is also located on relatively stable ground, and is of reinforced masonry construction and was built in 1968.

3. **General Utilities.** With respect to utilities, the most serious earthquake damage can usually be attributed to ground rupture rather than ground shaking. Because no major active faults are known to exist in Newark, damage here can be expected to be from shaking only.
4. **Railroads.** Railroad track lines within the City are not expected to be affected by the level of shaking accompanying a major earthquake in the area. However, the City is divided by railroad lines. The effectiveness of emergency response would be enhanced if there was an increase in the number of street- railroad grade separations.
5. **Streets and Highways.** For the most part, streets and highways in Newark are not expected to sustain major damage during an earthquake. However, portions of Thornton Avenue at the western edge of the City may experience subsidence. The overall ability of City streets and highways to provide satisfactory service will depend upon the ability of the various overpasses to sustain the anticipated shaking accompanying earthquakes. Where service may be temporarily disrupted due to any failure, alternative routes can be established which will provide the necessary function, although not with the previous convenience the original routes furnished. In other areas subject to ground failure and subsidence, service can be restored as soon as earth moving equipment can repair the damage.
6. **Bridges.** The Dumbarton Bridge, the five overpasses which cross the Nimitz Freeway and the three overpasses that cross the Dumbarton Freeway are key links to the west, east, and north

respectively, both from the standpoint of vehicular access into and out of Newark, and also because some utility services are attached to, or are in close proximity to the bridges. The City should encourage the State of California and Pacific Gas & Electric to evaluate and upgrade these facilities as possible and as new data on earthquake performance becomes available.

7. **Water Supply Facilities.** A major earthquake is not expected to greatly affect the service supplied by the Alameda County Water District. Experience in the behavior of underground water lines indicates satisfactory performance in lines subject to seismic shaking. However, the City should continue to work with the Water District to ensure that the water system is maintained and improved as necessary to ensure reasonable ability to rapidly recover from a major earthquake. Further, the City should communicate with the San Francisco Water Department to ensure that the Hetch-Hetchy pipe line through the City is upgraded, where necessary, to survive a major earthquake.
8. **Dams.** Earthquake-induced failure of either San Antonio or Calaveras Dams could have effects on the City of Newark. However, comprehensive data on both dams is not available to allow estimates of possible effects of dam failure on various parts of Newark. Data on Calaveras Dam indicates some minor potential for flooding and, as appropriate, should be considered in land use decision making. As possible, additional data, particularly with regard to San Antonio Dam, should be obtained, and, if found necessary, precautions taken to protect potentially impacted areas of the City.
9. **Natural Gas Pipelines.** Because of the composition and location of these underground pipelines significant damage is not likely to affect these facilities within the City.
10. **Electric Power.** Electric power facilities will be damaged during a large earthquake. Standby facilities in the area will be required because of the expected failure of regular power sources. No reliable outage time estimates can be given. The PG&E system is well staffed with disaster procedures as outlined by the Public Utilities Commission. Restoration of service can be expected in as short a time as possible.
11. **Sanitary Facilities.** Within the eastern portion of the City, the sewage collection lines of the Union Sanitary District are not expected to receive much damage due to earthquake shaking. The larger, reinforced concrete trunk mains in less stable soils zones cannot be expected to perform perfectly without damage after seismic loading. Inflatable stops are available to stop the flow in the event of damage. Emergency pipe is available from the maintenance yard located in Fremont. The ability of the pumping station to maintain operations will depend on how much structural damage occurs due to liquefaction and shaking, and the ability of the electrical lines to supply power to the station. The facility may be expected to be without power for some time. The City should work with the Sanitary District to help ensure that the sanitary facilities are maintained and upgraded as possible to withstand anticipated earthquake shaking and potential ground failures, and include provisions for standby power.
12. **Telephone Service.** In any disaster situation, and particularly in earthquakes, the telephone service is not reliable. The ability of the phone companies to provide service after an earthquake will depend upon the ability of their structures and systems to remain intact. It will be particularly important for the City to maintain an emergency communications systems for use during the time of major disaster. In addition, mobile phones systems have proven important in the time of a major earthquake. As possible, the City should work with the mobile phone companies to expand their relay systems within the Newark and ensure that they remain operational after a major earthquake or other disaster.
13. **Waterways.** Flood control canals are expected to receive little or no hazardous damage due to ground shaking. Some slope instability may occur, resulting in minor sliding of earth into canals.

Because the waterways are not used extensively, no loss of service is expected, except under possible conditions related to liquefaction of soils in the lower portion of the City.

Emergency Response Planning

The City of Newark has adopted two emergency response plans. The "Emergency Operations Plan" is the City's primary plan which provides operational procedures for responding to a variety of emergency conditions, including earthquakes, flooding, tsunamis, hazardous material incidents and civil defense conditions. The guidelines included in this plan address the needs of the entire community and identify key responsible agencies and personnel. While this plan is considered acceptable and able to address city-wide emergencies, the City has established an Emergency Operations Center that can more effectively and efficiently evaluate and deal with city-wide emergencies.

The City's second response plan is the "Chemical Emergency Preparedness Supporting Plan." This plan establishes very thorough standard operating procedures for responding to a chemical spill or other hazardous materials incidents within the City.

The City's two emergency plans are considered to be adequate and should continue to be updated and revised to incorporate state-of-the-art emergency planning techniques. An ongoing commitment to staff training for emergency purposes is central to the success of these programs. Lessons should be learned from natural and other disasters, and modifications made to the City's emergency plans (see box for lessons learned from the October 17, 1989 Loma Prieta Earthquake).

EMERGENCY PLANNING LESSONS FROM THE OCTOBER 17, 1989 LOMA PRIETA EARTHQUAKE

Shortly after the 1989 Loma Prieta earthquake, the City conducted a critique of the actual earthquake response to see how effective the City's emergency planning effort had been. Many positive results were identified and some lessons were learned that have been addressed in revisions to the emergency planning program of the City. Some of the key findings were:

- o Personnel response was timely, effective and well coordinated. Individual responsibility was implemented according to the plan, and staff responded without having to be called. In addition, many volunteers contacted the City and the City team was able to quickly organize volunteer efforts.
- o Critical facilities were quickly evaluated and their status determined.
- o The City emergency broadcast system was quickly activated and pertinent messages broadcast.
- o The dispatch quickly became overloaded by phone calls, and fire and burglar alarms triggered by the earthquake. The system capacity needs to be increased. Other items, like an *alternative communications vehicle* may also prove helpful.
- o Problems were experienced with portable radios and the function of "pagers" and cellular phones was inconsistent and varied depending on the private company providing the service.
- o Looting started immediately and taxed City resources as well as NewPark Mall resources.

The following specific improvements were recommended as a result of the critique:

- o Personnel should be assigned to dispatch to specifically sort and prioritize calls for the Fire Department.
- o A central information point needs to be established so that data about tasks completed can be retrieved by those running operations. This should probably be in the City's Emergency Operations Center.

- o A prioritized list of buildings to be checked for damage needs to be established.
- o A clear system of damage assessment and reporting needs to be established.
- o Emergency situation checklists should be prepared for each department in the City, each floor of City Hall and each City building. The lists should be in an easily accessible area and personnel should be trained in the use of the lists.
- o Counseling needs to be added to the disaster preparedness plans. This is needed to assist rescue workers returning from the field. It is clear that in areas of significant damage, the tragedy affects rescue workers, inspection personnel and clean-up crews. This finding is based on the experience of Newark personnel sent to assist with damage in the City of Oakland. Newark was fortunate in avoiding the type of damage that occurred in Oakland and some other Cities in the Bay region.

As part of the City's emergency response planning, cooperation is maintained with other emergency response agencies. For example, there is cooperation on fire response among the Cities of Newark, Union City, and Fremont, whenever the need arises. Formal cooperation is available upon the declaration of an emergency, as set forth in the various jurisdictions' disaster or emergency operations plans.

Hazardous Materials Transportation, Handling and Storage

"Hazardous Materials" covers a large number of substances that are a danger to the public. These include toxic metals, chemicals, and gases; flammable and/or explosive liquids and solids; corrosive materials; infectious substances; and radio active materials. The risk associated with hazardous materials is largely dependent on the types, quantities and mix of materials. A material may pose no threat on its own, but in combination with an other material may pose significant risk if improperly handled stored or transported.

The Newark Fire Department coordinates the City's *Hazardous Materials Bureau*. The Bureau maintains a master list of hazardous materials users in the City, the specific types of materials that are used and the type of wastes that are generated. This list is used to facilitate response to emergency situations. The State of California has issued a number of permits to industries that are hazardous waste treatment facilities.

Existing Hazardous Materials Users. Each existing user is required to prepare a Hazardous Materials Management Plan (HMMP) for their individual operation. This plan is to include a complete inventory of all materials that are currently handled by types, quantities, and conditions of storage and transportation, includes routes of transport. Further, each plan assesses the potential hazards associated with the materials and outlines steps to be taken to minimize risk. Further, the plan outlines actions to be taken in the event of a spill or other accident, identifies a responsible person for the facility and includes any other data determined necessary by the Hazardous Materials Bureau. The plan should be updated on a regular basis, as any hazardous materials conditions change.

The HMMP addresses the methods being used for storing hazardous materials and demonstrates how they prevent any materials from entering the soils and groundwater. Further, the HMMP should evaluate the ability of the storage facilities to withstand earthquakes and flooding.

The City enforces State standards that require double-walls for new underground tanks and continuous monitoring and testing of underground storage tanks. All of the applicable State standards and requirements should continue to be enforced.

Contaminated Properties, Risk Assessment and Clean-up. The Hazardous Materials Bureau investigates all properties that are deemed contaminated or identified as potentially contaminated

to determine if adequate investigation and clean-up is being carried out by the property owner. Such sites/situations are referred to the appropriate environmental agencies for clean-up oversight so that public health and safety as well as the use and development of property in Newark will not be adversely affected. The Bureau tracks all such activities so that the city's interests are protected.

Future Industrial Sites/Hazardous Materials Users. All proposals for new industrial/hazardous materials uses should be carefully evaluated to limit the potential negative effects on adjacent land uses, as well as to reduce the risk of environmental contamination. All new uses should be required to prepare a HMMP, as defined above, for existing users prior to City approval of the new use. If the proposed use and HMMP identifies materials or conditions that the Hazardous Materials Bureau is not familiar with, the City should retain appropriate consultants, at the applicant's expense, to assist in full evaluation of the proposal.

In addition to the HMMP process, new zoning standards should be considered that limit the location of hazardous materials users. Safe distances should be required between such users and residential areas, other sensitive uses and waterways. (The cities, MT-high tech- zoning district requires that hazardous materials be stored at least 300 feet from the nearest residential development. This zone will, therefore prohibit certain types of high tech industrial uses near housing.)

Transportation of Hazardous Materials. As better information becomes available on hazardous materials and associated risks, there will be a need to review truck routes to make sure they can adequately provide for the safe transporting of hazardous materials/wastes. As practical, routes should be located away from sensitive land uses. The City should consider implementing a program that identifies the transportation routes used for major hazardous materials transportation. After such identification, actions could be taken to allow vehicles transporting hazardous materials to travel safely, with little delay and to avoid busy streets or intersections. Moreover, routes should provide good access for emergency cleanup and medical vehicles. North/south and east/west parallel routes should also be assessed so that a driver can select a bypass route should there be traffic congestion on one truck route.

The goals, policies and programs of this chapter are designed to ensure establishment of a comprehensive Hazardous Materials Management Planning program with the emphasis on prevention as opposed to clean-up. It is intended that land use controls and other regulations be used to reduce the handling of hazardous materials in and close to residential and other sensitive areas; and information programs be supported to build public awareness to the dangers, provide information to those who handle the materials, and improve compliance with regulations. The specific actions set forth below provide for achieving this objective and implementing the goals, policies and programs of the chapter.

9.3 ENVIRONMENTAL SAFETY GOALS, POLICIES AND PROGRAMS

GOAL 1. *Provide a quality environment in which it is safe for people to live, work, shop and play.*

Policy a. Establish and enforce development regulations and building code requirements to protect residents and workers from flooding, liquefaction, earthquake, fire, and other hazards.

Program 1. Require that new residential development, including all new dwellings, streets and other surface improvements, be constructed above the 100-year flood zone elevation.

Program 2. Require that new industrial, commercial and other new non-residential buildings be flood-proofed, or constructed on pads elevated above the 100-year flood zone.

Program 3. Prohibit development in any area where it is determined that the potential risk from natural hazards cannot be mitigated to acceptable levels.

Program 4. Monitor information about the "greenhouse effect" and the possible resulting rising sea level and, when determined necessary, take or support actions to protect the Newark community from potential adverse impacts of such phenomenon.

Program 5. Adopt periodic revisions of the Uniform Building Code (UBC) as required by the State.

Policy b. Minimize safety hazards by encouraging owners to provide adequate property maintenance.

Program 6. Assure adequate property maintenance by: (1) identifying and investigating potential hazards and municipal code violations, (2) notifying property owners and (3) implementing an orderly and fair abatement process.

Program 7. Work with the railroad to upgrade equipment and facilities and improve maintenance of existing railroad grade crossings so that these crossing are as safe as possible.

Policy c. Design and maintain a street system that is safe for motorists, bicyclists, and pedestrians.

Program 8. Identify and correct any hazardous traffic and street conditions on a continuing basis. Take into account, and where needed, make special provisions for the safety of the elderly and the handicapped.

Program 9. Construct curbs, gutters, and sidewalks on all streets.

Program 10. Encourage street use safety training in schools and through City recreation programs emphasizing pedestrian and bicycle safety.

Policy d. Maintain adequate animal control services in Newark.

Program 11. Expand public awareness and knowledge of the spay and neuter clinic.

Policy e. Work with Federal, State and other local agencies to guide location of, and eliminate any potential adverse impacts that might be associated with any plan for an airport/heliport in the Southern Alameda County area.

GOAL 2. *Provide a quality environment with an acceptable level of police, fire and emergency medical services for the safety of residents, employees and visitors in Newark.*

Policy a. Provide uniform performance standards for police, fire and emergency medical services.

Policy b. Provide fast and efficient fire suppression service in Newark.

Program 1. Monitor conditions on a continuing basis, and where necessary, upgrade fire stations and equipment, and educate and train personnel.

Program 2. Establish and implement performance standards, such as desired response times for police, fire and other emergency services.

Program 3. Develop fire plans, including procedures to respond quickly with a large number of fire fighters and equipment and, where necessary with aide from fire departments of adjacent municipalities, for buildings with a large number of occupants and for other fires with large fire fighting demands.

Policy c. Establish fire prevention as the Fire Department's highest priority.

Program 4. Identify and take all reasonable actions to make buildings fire-safe, including where appropriate, requirements for sprinkler systems, non-combustible materials, and fire early-warning systems in all new buildings.

Program 5. Inspect all industrial, commercial, public, and multiple-family residential buildings annually for fire and building code violations and require that violations be corrected.

Program 6. Encourage expanded placement in existing facilities of smoke, heat, gas and other early-warning alarms as well as fire extinguishers.

Policy d. Provide medical emergency response services in Newark.

Program 7. Encourage the use of emergency medical technicians (EMT-D) for emergency medical responses. Support programs to increase the knowledge and capabilities of paramedics; and, when determined necessary, to increase paramedic personnel and equipment.

Program 8. Plan and provide for rapid medical response in the event of a major catastrophe.

Policy e. Provide for a traffic circulation system that assures the City's capacity to deliver emergency services.

Program 9. Identify and implement street improvements, such as railroad overpasses or underpasses, and other improvements such as a train monitoring systems and emergency vehicle routing controls, which are needed to maintain fast emergency response.

Program 10. Install traffic-signal override systems for all emergency vehicles on all significant streets.

GOAL 3. *Ensure the City's capacity to respond effectively to natural and man-made emergencies and disasters.*

Policy a. Provide for fast, efficient and coordinated response to natural and man-made disasters.

Program 1. Maintain and regularly update emergency plans for flood, earthquake, fire, hazardous materials, and other disasters.

Program 2. Conduct regular emergency response training exercises.

Program 3. Acquire and maintain emergency equipment, supplies, services, and communications systems.

Program 4. Cooperate with other public agencies, community groups and private enterprise in developing comprehensive disaster assistance plans.

Program 5. Identify specific facilities and lifelines critical to effective disaster response, and evaluate their ability to survive and operate efficiently immediately after a major disaster. Designate alternative facilities for post-disaster assistance in the event that primary facilities become unusable. Take appropriate actions to help ensure that critical services and facilities can return to more normal conditions and levels of operation as soon as possible after a disaster.

Policy b. Maintain public awareness of City emergency preparedness plans and resources.

Program 6. Disseminate information regularly about Newark's emergency preparedness plans and resources, including evacuation plans, routes and staging locations, through newsletters, press releases, cable television, Radio Newark, City schools and employee information bulletins.

Policy c. Avoid placing new development in areas where emergency response and evacuation can not be provided within acceptable levels of service causing risk to people and structures within the proposed development.

GOAL 4. *Protect Newark residents and workers from potential hazards associated with commercial and industrial activities.*

Policy a. Seek to prevent hazardous materials, including toxic wastes, accidents, e.g., leaks, spills, and vapor releases, and minimize the effects if they occur.

Program 1. Ensure that all new construction meets City, state, and federal requirements for the storage and handling of hazardous materials before building permits are issued.

Program 2. Encourage, and when possible require, businesses that use or handle hazardous materials to update (retrofit) facilities to ensure safety.

Program 3. Work with state and federal agencies to ensure that all facilities in which hazardous materials are used or handled are regularly inspected, that regulations are enforced, and that there is accountability.

Program 4. Inventory and inspect on a regular basis those buildings and facilities in which hazardous materials accidents would pose any significant threat to the community, and work with the owners to develop and implement programs for reducing risk associated with these buildings and facilities.

Program 5. Take actions to identify and where possible, eliminate existing unacceptable relationships between hazardous materials users and adjoining sensitive land uses. This includes actions needed to protect sensitive environments like open space areas, e.g., wetlands, San Francisco Bay National Wildlife Refuge, parks, etc.

Policy b. Seek to reduce the risk of accidents in the transportation of hazardous materials.

Program 6 Work with appropriate Federal agencies to designate truck routes for transporting hazardous materials.

Program 7. Restrict, where possible, development of residences, businesses and schools along truck routes which have high potential for significant hazardous materials transportation.

Program 8. Encourage the railroad to establish safe conditions for loading, unloading, and transporting hazardous materials along rail lines. Encourage the railroad to pursue a high quality of railroad track maintenance and safety of all railroad facilities and equipment, including engines and cars. Encourage the railroad to minimize the occasions where trains are blocking intersections. Encourage communication between the railroad and City police/fire dispatchers to advise when intersections will be/are blocked.

Policy c. Reduce hazardous waste generated in Newark through source reduction and recycling.

Program 9. Adopt a Hazardous Waste Materials Management Plan that is consistent, where appropriate, with the Alameda County Hazardous Waste Management Plan.

Program 10. Adopt a disclosure ordinance which includes a strict definition of "hazardous materials" that takes into account such factors as quantity and mix of materials, and that requires that the City's Hazardous Materials Bureau be notified of all use, storage, and transport, including routing and timing by outside sources through the City, of hazardous materials.

Program 11. Establish special zoning designations and environmental review processes that limit the location of industry and research, and business facilities using hazardous materials. Safe distances should be required between these firms, residential areas, and waterways.

Policy d. Reduce the emission of undesirable odors from manufacturing plants.

Program 12. Require that odors from manufacturing processes be contained within buildings by treating odorous emissions, improving ventilation systems, and providing adequate enclosures. (Note: this area of control is the responsibility of the Bay Area Air Quality Management District.)

Program 13. Work with the Bay Area Air Quality Management District to monitor odors near sensitive receptors on a spot-check basis.

Policy e. Improve the effectiveness of cooperation and coordination with other jurisdictions with respect to mutual aid for hazardous materials incidents.

Program 14. Work with neighboring jurisdictions and state agencies to enhance the ability for mutual aid to occur when needed in response to a hazardous materials incident.

Appendix ES-A

**Tables A and B -- Earthquake Intensities &
Geologic Units and Estimated Seismic Hazards**

Source: Earth Sciences Associates
 City of Newark
 Seismic Element

TABLE A
MODIFIED MERCALLI INTENSITY SCALE OF 1931 (Abridged)

- I. Not felt except by a very few under especially favorable circumstances.
- II. Felt only by a few persons at rest, especially on upper floors of buildings. Delicately suspended objects may swing.
- III. Felt quite noticeably indoors, especially on upper floors of buildings, but many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibration like passing of truck. Duration estimated.
- IV. During the day felt indoors by many, outdoors by few. At night some awakened. Dishes, windows, doors disturbed; walls make creaking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.
- V. Felt by nearly everyone, many awakened. Some dishes, windows, etc., broken; a few instances of cracked plaster; unstable objects overturned. Disturbance of trees, poles, and other tall objects sometimes noticed. Pendulum clocks may stop.
- VI. Felt by all, many frightened and run outdoors. Some heavy furniture moved; a few instances of fallen plaster or damaged chimneys. Damage slight.
- VII. Everybody runs outdoors. Damage negligible in buildings of good design and construction; slight to moderate in well built ordinary structures; considerable in poorly built or badly designed structures; some chimneys broken. Noticed by persons driving motor cars.
- VIII. Damage slight in specially designed structures; considerable in ordinary substantial buildings with partial collapse; great in poorly built structures. Panel walls thrown out of frame structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water. Persons driving motor cars disturbed.
- IX. Damage considerable in specially designed structures; well designed frame structures thrown out of plumb; great in substantial buildings, with partial collapse. Buildings shifted off foundations; ground cracked conspicuously. Underground pipes broken.
- X. Some well built wooden structures destroyed; most masonry and frame structures destroyed with foundations; ground badly cracked. Rails bent. Landslides considerable from riverbanks and steep slopes. Shifted sand and mud. Water splashed (slopped) over banks.
- XI. Few, if any, (masonry) structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipelines completely out of service. Earth slumps and landslips in soft ground. Rails bent greatly.
- XII. Damage total. Waves seen on ground surfaces. Lines of sight and level distorted. Objects thrown upward into air.

Appendix ES-A -- Table A
Modified Mercalli Intensity Scale of 1931 (Abridged)

Earth Sciences Associates

TABLE B DESCRIPTION OF GEOLOGIC UNITS AND ESTIMATED SEISMIC HAZARDS

GEOLOGIC UNIT	I. ALLUVIAL DEPOSITS	II. FLUVIAL DEPOSITS	III. INTERFLUVIAL BASIN DEPOSITS	IV. MARSHLAND DEPOSITS	
Description	Gently sloping alluvial plain underlain by undifferentiated younger and older alluvial fan deposits consisting of unconsolidated to slightly consolidated lenticular silts, sands, clays, and gravels.	Gently sloping plain underlain by younger fluvial deposits consisting of unconsolidated sand, silt, and clay with some gravel	Nearly flat lowlands underlain by interfluvial basin deposits consisting of highly plastic, organic-rich clay and silt. May contain localized lenses of saturated sand. Generally less than 10 feet thick.	Marshland and coastal floodplain underlain by Bay Mud ranging from soft to firm water-saturated clay and silt. Contains localized lenses of saturated sand.	
Potential for fault ground rupture	Unlikely	Unlikely	Unlikely	Unlikely	
Seismically induced ground failure	Earthquake-induced slides or ground failures unlikely on flat ground. Slides or slumping along creek or lake banks possible.	II _a Earthquake-induced slides or ground failure unlikely on flat ground. Slides or slumping along creek banks possible.	II _b Ground failures in localized areas from liquefaction of saturated sand lenses or sudden loss of strength in clays possible.	Ground failures in localized areas from liquefaction of saturated sand lenses or sudden loss of strength in clays possible.	
Ground shaking (Maximum estimated intensity)	IX 1) for a 7.5 magnitude earthquake on Hayward fault. 2) for an 8.5 magnitude earthquake on the San Andreas fault.	IX VIII VII VI V	IX VIII VII VI V	IX+ IX IX IX IX	X IX+ IX IX IX
Number of occurrences in 157 year period, 1810-1966.	IX VIII VI V 1 2 3 11	IX VIII VII VI V 1 2 3 11	IX VIII VI V 1 2 3 11	IX VIII VI V 1 2 3 11	IX VIII VI V 1 2 3 11
Flooding or tsunamis	No hazard	No hazard		Rise in sea level due to tsunami would probably not exceed 5.8 feet above mean sea level.	

Chapter 10. NOISE

Chapter 10. NOISE

10.1 INTRODUCTION, PURPOSE, RELATIONSHIP TO OTHER CHAPTERS

This chapter has been prepared to meet the requirements of California planning law Section 65302(f) and in recognition of the guidelines adopted by the California Office of Noise Control, pursuant to the Health and Safety Code, which were revised in 1987 under AB 2038. The chapter provides the framework for protecting Newark's citizens from excessive noise and specifically accomplishes the following:

1. Identifies and quantifies the extent of noise problems within the community through:
 - a. Measuring and projecting existing and future noise exposures, respectively; and,
 - b. Providing existing and future noise contour maps of each identifiable major noise source. These maps are contained in Appendix C.;
2. Establishes the acceptable noise standards for Newark.
3. Sets forth goals, policies and programs for noise attenuation to acceptable standards for the protection of local residents, employees, visitors, etc.

In order to effectively plan for protection from excessive noise, reasonable noise standards need to be established and then applied in evaluating the conditions within a community. This chapter, including its appendices, sets forth generally recognized and accepted noise definitions and standards and then applies them in terms of guiding future growth and change within the City. A number of specific terms used in the discussion of noise have special meaning to this chapter. As appropriate to the text discussion, these terms are either defined in the text or in *Appendix B, Definitions*.

Protection from excessive noise has been taken into account in the general distribution of land uses described in *Chapter 3. Land Use* of this plan. Further, policy in the *Land Use* chapter requires that site planning for individual projects be responsive to the conditions that affect each individual site. Thus, the noise goals, policies and programs of this chapter will have a direct influence on how each individual project is planned. For example, for some proposed developments, large setbacks and particular building orientations may be found necessary to avoid future noise problems.

Chapter 4. Transportation, provides the policy framework for transportation improvements and changes within the City. These changes and improvements have potential noise impacts. Both the transportation chapter and this chapter require that noise standards be adhered to in planning and implementing new transportation facilities.

The *Noise Chapter* in concert with *Chapter 9. Environmental Safety* provide the basis for health safety planning in the City.

10.2 NOISE DEFINITIONS AND STANDARDS

Most of the terms used to characterize and describe standards relative to noise are defined in *Appendix B*. However some definitions are important to the context of the discussion of this

Chapter and are therefore contained in the following descriptions. Both the definitions in Appendix B, and those set forth below are adopted as part of this plan.

Sound and Noise

Sound results from pressure alterations propagated in an elastic medium. In air, sound consists of changes in pressure that alternate above and below the atmospheric pressure. When vibrating objects accelerate the air molecules next to them, alternate waves move through the air similar to waves in water. As the waves encounter an object, a force is exerted which causes the objects to move. When the object is the human ear drum, forces are transmitted to the middle and inner ear sections where each vibration is ultimately carried to the brain and is interpreted as sound. Sounds have various characteristics including variations in intensity (loudness), frequency (pitch), incidence (constant vs. intermittent), and complexity (purity of pitch).

Noise is usually defined as unwanted sound. It is difficult to objectively describe noise since what is desirable sound to one person may be noise to another. The intensity, duration, time of occurrence and frequency components of the sound contribute to its identification as sound or noise. There are, however, many sounds which originate from transportation sources that are categorized as noise by most everyone. Generally, the determination of which sounds are noise vary by the individual's experience, learning, or activity state. Strange sounds are considered as noise compared to more predictable sounds. Sounds which occur during activities requiring quietness are perceived as being noisier than sounds of the same intensity occurring during a more active period. Research indicates that loud, high-pitched, intermittent sounds are more annoying and considered the "noisiest".

While normal environmental noise, even near freeways, does not yet approach levels associated with hearing loss, it nevertheless produces numerous undesirable effects on humans. Most persons automatically interpret unexpected, loud noises as impending danger. It may be a subconscious reaction, but it is clearly indicated by the physical changes that take place in response to noise. Even a sound of moderate volume and short duration, such as a heavy truck passing on the other side of the street (approximately 80 dBA), produces a remarkable number of these physical changes. While most of these reactions are only temporary, the modern environment presents such ever-changing noise levels that some of these "temporary" effects become chronic.

We may not be immediately aware of these changes since they are functions of the so-called involuntary or automatic nervous system. Yet this dramatic reaction to noise occurs in our bodies many times each day as we encounter the clamor of modern living. Noise interrupts thought and mental concentration, which, in turn, not only lowers the working efficiency of people doing exacting or predominantly mental work, but also makes them more nervous, irritable and generally unsettled.

It must be emphasized that annoyances or complaints arising from transitional noise intrusions will not be determined solely by the noise level of the intrusions nor by the degree by which the noise intrusions exceed the background noise. Experience from both aircraft and motor vehicle studies indicate that, particularly for noise intrusions that are "moderate" in level, the reactions in a given community will be markedly influenced by various socioeconomic factors and by personal feelings about the source of the noise.

While studies have shown that people vary markedly in their susceptibility to noise, and one can expect to find some highly susceptible individuals in almost any neighborhood, *discussions and recommendations in this Chapter are based on noises and noise levels that are considered unacceptable to persons having normal hearing sensitivity, rather than to those who are highly sensitive to noise.*

The Measurement of Sound

The measurement of sound involves two basic problems, the very wide range of pressures and the nonlinear manner in which the ear responds to sounds of varying intensity and frequency. It has been found that the human ear responds logarithmically to changes in loudness of an applied stimulus. Therefore, most sound measuring instruments are calibrated to read in terms of the common logarithm of the ratio of the sound pressure to a reference pressure. The meter reading is called the sound pressure level and is expressed in *decibels (dB)*.

Zero (0 dB) on the decibel scale is the lowest sound level that a healthy human ear can detect under very quiet conditions. As the sound level measuring scale is logarithmic (not in linear units like inches or pounds), a wide range of sound level changes can be expressed without using large, unwieldy numbers. For example, 10 decibels is 10 times more intense than 1 decibel, 20 decibels is 100 times greater than 1 decibel and 30 decibels is 1000 times greater than 1 decibel.

In relating decibels to human perception, it is necessary to use a particular type of decibel scale. This is known simply as the *A-scale*, which simulates the response of the human ear. The ear is more perceptive of mid-range frequencies as it is designed to perceive human voice sounds. The A-scale is universally used for measuring sound levels because of its similarity to human perception. Typical "A"-weighted sound levels for various sources measured at specific distances shown are listed in Figure 10-1.

Figure 10-1
NOISE SCALE

Source	Distance	Sound Level, (dBA)
Soft whisper	5 ft.	30
Quiet office	-----	40
Light traffic	100 ft.	50
Average speech	3-5 ft.	60
Automobiles	50 ft.	70
Inside bus	-----	80
Leaf blower	25 ft.	85
Inside subway train	-----	90
Freight train	25 ft.	100
Automatic punch press	3 ft.	110
Pneumatic chipper	5 ft.	120
Threshold of pain	-----	130

The combining of noise levels, in terms of decibels, is not simple arithmetic. Since decibels are logarithmic, so must be the mathematics. For example, $60 \text{ dB} + 60 \text{ dB} = 63 \text{ dB}$, not 120 dB. Each time the number of noise sources is doubled, the noise level increases by 3 dB.

Sound pressure levels also change with distance. Under standard or typical atmospheric conditions, sound attenuates at a rate of 3 to 6 dB for each *doubling of the distance (D.D.)* from the source to the receiver. When the sound source is a Point Source, a single stationary object, the attenuation rate is 6 dB/D.D. When the sound source is a Line Source, a very long train or an array of speakers, emitting the same signal, and extending from as far as one can see to the left to as far as one can see to the right, the attenuation rate is 3 dB/D.D. Roadway traffic is considered a Moving Point Source and the attenuation rate is on the order of 4.5 dB/D.D.

When reporting sound pressure levels, it is imperative that the distance between the source and receiver is also reported.

In terms of perceived loudness, a sound level of 10 dB higher than another is not considered 10 times louder, but 2 times louder. That is, the perceived loudness doubles with every 10 decibel increase. An untrained human ear typically cannot detect a difference in sound levels of less than 3 dB. It is difficult to tell the difference between 60 dB and 62 dB, but the difference between 60 dB and 64 dB is easily noticed.

Because sound travels through air, the most effective way to reduce sound is to provide an air-tight barrier. Thus, landscaping, trees, shrubs, etc., do very little for noise attenuation. A high density grove of tall trees must be at least 100 ft. thick before a reduction of 5 decibels is realized. However, thick shrubs can be useful to help absorb and diffuse sound when there are sound reflection problems from an exterior noise barrier.

Community Noise Ratings

To assess the severity of a noise exposure, an appropriate criterion must be selected, and this first involves the choice of an appropriate *rating scale*. In some situations a simple sound level meter reading is adequate while in other cases a knowledge of the spectrum of the noise and time characteristics is required. Various rating scales have been developed that require information on the distribution of levels of fluctuating noise, time duration, repetition rate for impulsive and intermittent noise, background levels, time of occurrence, etc.

A variety of rating scales have been developed which have advantages and disadvantages. For measurements of overall noise levels, the *A-weighted* reading is often satisfactory. However, with constant fluctuations in urban noise levels, it is not adequate to define noise as so many decibels. Urban noise must be defined in statistical terms which account for the time-varying pattern of the noise. A series of statistical descriptors have been developed which represent the noise levels exceeded a given percentage of the time. The following descriptors are called the *L exceedance levels* and are commonly used to describe community noise:

- L₁₀** A noise level exceeded for 10% of the time, considered to be an "intrusive" level.
- L₅₀** The noise level exceeded 50% of the time, considered to be an "average" or median level.
- L₉₀** The noise level exceeded 90% of the time, designated as a "background" noise level.
- L_{eq}** The continuous equivalent-energy level is that level of a steady noise having the same energy as a given time varying noise. The L_{eq} thus represents the decibel level of the time-averaged value of sound energy or sound pressure squared. The L_{eq} descriptor is used to calculate the Day-Night Level (DNL) and the Community Noise Equivalent Level (CNEL).

The noise scale utilized in this Noise Chapter is described in terms of the *Day-Night Level (DNL)*. The *DNL rating is determined by the cumulative noise exposures occurring over a 24-hour day in terms of A-weighted sound energy*. The 24-hour day is divided into two subperiods for the DNL index, i.e., the daytime period from 7:00 a.m. to 10:00 p.m., and the nighttime period from 10:00 p.m. to 7:00 a.m. A 10 dBA weighting factor is applied (added) to the noise levels occurring during the nighttime period to account for the greater human sensitivity to noise during these hours.

The DNL is calculated from the measured continuous equivalent-energy level (L_{eq}) in accordance with the following formula:

$$\text{DNL} = [(L_d + 10 \log_{10} 15) + (L_n + 10 + 10 \log_{10} 9)] - 10 \log_{10} 24$$

where: L_d = Leq for the daytime (7:00 a.m. to 10:00 p.m.)
 L_n = Leq for the nighttime (10:00 p.m. to 7:00 a.m.)
24 indicates the 24-hour period
& denotes decibel addition

(The L_{10} level has been used by the Federal Highway Administration (FHWA) and by the California Department of Transportation for highway noise assessment and as the design criteria level for highway construction.)

The **Community Noise Equivalent Level (CNEL)** rating, developed originally for airport and aircraft noise assessment in California, divides the 24-hour day into three periods, daytime, evening and nighttime, with a 5 and 10 dB penalty for the evening and nighttime noise, respectively. The CNEL values are calculated from the Leq values in accordance with the following formula:

$$\text{CNEL} = [L_d + 10 \log_{10} 12] \& (L_e + 5 + 10 \log_{10} 3) \\ \& (L_n + 10 + 10 \log_{10} 9)] - 10 \log_{10} 24$$
where: L_d = Leq for the daytime (7:00 a.m. to 7:00 p.m.)
 L_e = Leq for the evening (7:00 p.m. to 10:00 p.m.)
 L_n = Leq for the nighttime (10:00 p.m. to 7:00 a.m.)
24 indicates the 24-hour period
& denotes decibel addition

As can be seen from the above equations, the numerical differences between the DNL and CNEL values calculated from the Leq is less than 1 dB. Therefore, for all practical purposes the two scales can be considered equivalent. As the CNEL computations are more complex than in the DNL index, the DNL system is preferred. In addition, as the DNL and CNEL can be calculated only from "A"-weighted measurements, the "A" term is dropped from the notation. For instance, one would report 60 dB DNL, not 60 dBA DNL.

Noise Criteria for Land Use Planning

In planning for an acceptable community noise environment, two considerations must be realized:

1. Fixed (in terms of locale) noise sources, such as freeways, railroad lines and industrial plants may provide areas unsuitable for certain types of land use. Thus, it is desirable to establish criteria by which a planner may determine acceptable land uses for a given site with respect to noise compatibility.
2. Limits must be placed on noise emission of individual sources to ensure that noise levels within any given land use will remain within or reduce to some recommended level.

To avoid annoyance and health problems from exposure to excessive noise levels, all development proposals should comply with the exterior and interior standards shown in Figures 10-2 and 10-3, respectively. Further, the noise criteria for multi-family housing should comply with the Noise Insulation Standards of the California Code of Regulations, Part 2, Title 24.

"Normally Acceptable" means that the specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

"Conditionally Acceptable" means that new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and necessary noise mitigation measures are included in the design.

Noise exposures above the *"Conditionally Acceptable"* limit are unacceptable and new construction or development should be discouraged. If new construction or development proceeds, a detailed noise analysis must be performed.

**Figure 10-2
EXTERIOR NOISE EXPOSURE LIMITS FOR COMMUNITY NOISE ENVIRONMENTS**

Land Use	Noise Exposure Limit, dB DNL	
	Norm. Acceptable	Cond. Acceptable
Residential		
Single-Family*	60	70
Multi-Family	65	70
Transient Lodging		
Hotels, Motels	65	70
Schools, Churches		
Library, Hospitals		
Nursing Homes	60	70
Auditoria, Concert Halls		
Amphitheaters	70	70
Sports Arenas, Outdoor		
Spectator Sports	75	75
Playgrounds, Neighborhood		
Parks, Golf Courses,		
Riding Stables, Water		
Recreation, Cemeteries	75	80
Office Buildings, Business,		
Commercial and Professional	70	80
Industrial, Manufacturing		
Utilities, Agriculture	75	80

**Figure 10-3
INTERIOR NOISE LEVELS (DNL) CONSIDERED ACCEPTABLE FOR VARIOUS USES**

Use	DNL
RESIDENTIAL	
Single-Family **	45
Multi-Family	50
COMMERCIAL	
Hotel-Motel	45
Executive Offices, Conference Rooms	40
Staff Offices	45
Restaurant, Markets, Retail Stores	60
Sales, Secretarial	50
Sports Arena, Bowling Alley, etc.	75
INDUSTRIAL	
Offices (same as above)	55-60
Laboratory	60
Machine Shop, Assembly, & Others	75
PUBLIC OR SEMI-PUBLIC FACILITY	
Concert Hall & Legitimate Theater	30
Auditorium, Movie Theater & Church	45
Hospital, Nursing Home, School Classrooms, Firehouse (sleeping quarters)	45
Library 40	
Source:	State Office of Noise Control

* Interpretation of State of California Noise Standards, Jeff Pack Associates.

** There is a 15 db difference between exterior and interior noise levels, Jeff Pack Associates.

Noise Insulation Standards of the California Code of Regulations

The noise insulation standards of the State Building Code (California Code of Regulations), Part 2, Title 24 establishes uniform minimum noise insulation performance standards to protect persons within new hotels, motels, dormitories, long-term care facility, apartments, condominiums, townhomes and dwellings, *other than detached single-family dwellings*, from the effects of excessive noise, including but not limited to hearing loss or impairment and interference with speech and sleep.

*Title 24 specifies an exterior noise exposure criteria of 60 dB DNL. When any part of a development site is exposed to noise greater than 60 dB DNL, an *acoustical analysis*, as described in this chapter, must be performed. The analysis should include mitigation measures to limit the noise exposure in interior living spaces to 45 dB DNL or less.*

In addition, Title 24 specifies minimum sound insulation ratings for common interior partitions. Common walls must be designed to have a Sound Transmission Class (STC) rating of 50 or higher. Common floor/ceiling assemblies must be designed to have STC 50 or higher and Impact Insulation Class (IIC) 50 or higher ratings. When tested in the field, the airborne sound rating is deemed acceptable if the Noise Isolation Class (NIC) or Normalized Noise Isolation Class (NNIC) is 45 or higher. An impact sound rating of Field Impact Insulation Class (FIIC) 45 is also considered acceptable. The field test procedures must conform to those specified in ASTM E336 and E1007.

The Occupational Safety and Health Administration (OSHA) and EPA have jurisdiction over occupational noise; OSHA allows a maximum Leq of 90 dB for an eight-hour day. In view of the fact that these agencies are still debating the question of adequate occupational noise levels, and since OSHA has enforcement authority over these levels, the City of Newark defers to the Federal authorities for consideration of occupational noise produced indoors.

Noise Emission Standards

Noise emission standards may be invoked for the following purposes:

- a. To regulate any noise source (other than aircraft and motor vehicles operating on public thoroughfares) which cause violation of the standards.
- b. To determine the suitability of land to be developed considered as a noise source with nearby properties considered as receptors to which the standards apply.

Standards for ground transportation noise, Newark's major source of noise, have been established by State and Federal government agencies. Newark can enforce ground transportation noise emission standards through its police department; these standards are therefore established for the City within this Chapter.. Figure 10-4 presents State standards for motor vehicles operating on public roadways.

Noise emission standards for construction equipment operating in the City of Newark are listed in Figure 10-5. These are to be applicable to the named source whether operated by individuals, companies, public agencies or other organizations. In addition to these specific standards, the following standard should be met:

"No person shall be allowed to cause any noise to be emitted past his/her property line in any manner so as to create any noise which would cause the ambient noise level to be increased by more than 6 dB. The procedure for determining if this standard is being violated shall be described in the Newark Municipal Code".

The DNL noise descriptor was not chosen for this standard; (1) because it is not adequate for measuring peak type annoyance noises for which this standard is designed, and (2) it requires measurements during the day and nighttime periods which make it prohibitively costly in terms of enforcement. This standard, being both quantitative and measurable prevents possible errors of subjectivity involved in the enforcement of a Noise Ordinance.

Figure 10-4
CALIFORNIA STATE NOISE EMISSION STANDARDS FOR MOTOR VEHICLES
(at 50 feet from Center Lane of Travel, dBA)

<u>Vehicle Type</u>	<u>< 35 mph</u>	<u>> 35 mph</u>
Trucks*	88	90
Motorcycles	82	86
Automobiles	76	82

* For trucks manufactured after 1973, and operating at 35 mph or less, the maximum level allowed is 86 dBA.

Notes:

Trucks are defined to be "Any motor vehicle with a manufacturer's gross vehicle weight of 6000 lbs. or more, and any combination of vehicles towed by such motor vehicles."

Motorcycles are defined to be "Any motorcycle other than a motor driven cycle."

Automobiles are defined to be "Any motor vehicle and any combination of vehicles towed by such motor vehicle."

Figure 10-5.
MAXIMUM ALLOWABLE NOISE LEVELS FROM CONSTRUCTION EQUIPMENT

Equipment	Peak Noise Level in dBA at 50 Ft.
Earthmoving:	
front loader	75
backhoes	75
dozers	75
tractors	75
scrapers	80
graders	75
truck	75
paver	80
Materials Handling:	
concrete mixer	75
concrete pump	75
crane	75
derrick	75
Stationary:	
pumps	75
generators	75
compressors	75

Impact:	
pile drivers	95
jackhammers	75
rock drills	80
pneumatic tools	80
Other:	
saws	75
vibrator	75

Railroad Ground Vibration Criteria

The effect of ground-borne vibration due to railroad operations can be detrimental to building structures and persons within those structures. Like airborne sound waves, vibrational waves travel spherically and attenuate over distance. Ground vibrations are influenced by the nature of and type of rock and soil, the positions of the groundwater table, the sub-strata sequences, geologic irregularities and other factors. The intensity of ground shaking is a function of particle displacement, velocity, acceleration and the resonant frequency of the soil.

The human perception threshold for ground vibration is approximately 0.005 in./sec. Vibration frequencies due to rail traffic are predominantly in the 10 to 100 Hz range and ground velocities have been measured to be up to 0.8 in./sec. Although tall buildings commonly have fundamental frequencies between 0.5-1.0 Hz, residential buildings have natural frequencies between 10 and 30 Hz. Therefore, resonances due to rail traffic vibrations may result in particle velocities high enough to be a nuisance (0.1-0.3 in/sec) for those within a residential building.

Planned residential structures in the proximity of railroad freight tracks may experience structural damage if located within 25 ft. of freight track centerlines. *As the human perception threshold of vibration is approximately 0.005 in./sec., residences should be situated at a distance from the tracks great enough to prevent vibration perception exceedences.*

10.3 GOALS, POLICIES AND PROGRAMS

GOAL 1. *Insure that all new living and work areas are developed with a quality environment that is free from excessive, inappropriate, and undesirable noise.*

Policy a. Maintain standards for acceptable noise levels for all residential, industrial and commercial development and for noise-sensitive uses such as hospitals and schools. Revise the standards as necessary.

Program 1. Utilize the "Land Use Compatibility Standards for Community Noise Environments" recommended by the State as the basis for the regulation of noise.

Policy b. Encourage separation of residential areas and other noise-sensitive uses, such as schools, from sources of undesirable noise.

Program 2. Consider potential noise impacts when evaluating zoning changes which would permit residential uses to be located in close proximity to commercial and industrial uses which typically generate excessive noise.

Program 3. Develop limits for acceptable levels of railroad noise in residential areas and determine where noise mitigation measures are appropriate.

Program 4. Limit the activities in new non-residential development during night-time hours.

Program 5. Consider the development of "quiet zones" in special areas of the City, perhaps in already existing recreation areas. All forms of noise would be controlled so that people could visit and enjoy solitude as part of their recreation and leisure experience.

Policy c. Protect occupants of buildings from excessive noise from sources within and outside the building, using site planning, architectural layout, noise barriers, and construction modifications.

Program 5. Discourage placement of windows and doors in walls facing noise sources that exceed the noise compatibility standards in residential buildings.

Program 6. Encourage design of residential units to place bedrooms on sides of units away from noise sources that exceed noise compatibility standards.

Program 7. Require that stationary equipment, such as air conditioning units and condensers, be placed inside or in the walls of new buildings or on roof-tops of central units in order to reduce noise impacts on surrounding units.

Program 8. Require acoustical studies for new development projects in areas having DNL's greater than normally acceptable for the land use proposed.

Program 9. Plan road networks with cul-de-sac and cluster courtyards to reduce traffic passing residential units.

Program 10. Require construction of berms or walls between arterials and new residential developments to establish an exterior noise level of 60 dB DNL or less for outdoor living areas.

Policy d. Complete the system of arterials to reduce traffic levels on collector and local streets.

GOAL 2. *Reduce sound levels from known sources of excessive noise.*

Policy a. Control unnecessary, excessive and annoying noises within the city, where not preempted by federal or state control.

Program 1. Maintain city-wide noise regulations that set limits on the intensity and hours of use for selected noise sources such as manufacturing equipment, motors, delivery trucks in commercial and industrial areas, and parking lot vacuum equipment.

Program 2. Enforce the provisions of the California Motor Vehicle Code pertaining to vehicle noise emission.

Program 3. Require properly maintained mufflers on construction vehicles.

Program 4. Enforce ordinances regulating truck routes.

Program 5. Require placement of stationary construction equipment, such as compressors, as far as possible from developed areas, and require use of acoustic shielding with such equipment when feasible and appropriate.

Program 6. Maintain streets in such a manner that assures the minimum level of road surface noises.

Program 7. Review city functions and activities to make sure that noise such as construction, refuse collection, and street sweeping has been reduced to the lowest possible level.

Program 8. Review and re-evaluate traffic flow systems to synchronize signalization to avoid traffic stops which produce excessive noise, and to adjust traffic flow to achieve noise levels acceptable to surrounding areas.

Policy b. Encourage Caltrans to design its transportation facilities in and near Newark so as to produce the least adverse noise effects on Newark.

Program 7. Construct sound walls along Interstate 880 to protect residential areas from freeway noise, using outside funding sources such as Measure B.

Program 8. Work with residents to construct or increase wall height where there is an exterior noise level greater than 60 dB DNL.

Policy c. If an airport/heliport is constructed in Southern Alameda County, work with other agencies to minimize negative effects on safety and noise for Newark residents and property.

Program 9. Evaluate the suitability of the proposed airport/heliport in relation to nearby land uses.

Program 10. Work with other agencies to establish landing and take-off patterns for airport/heliport flights directed away from residential areas.

10.4 THE NEWARK NOISE ENVIRONMENT

As a basis for implementing the goals, policies and programs, as well as the standards of this chapter, the existing and future noise environments of Newark have been evaluated and characterized. The sections that follow provide an overview of the findings.

The Major Sources of Noise and Existing Conditions

The noise environment throughout the City of Newark is created primarily by roadway traffic, railroad operations, industrial activities and to lesser extent, commercial activities. The major noise sources are:

Interstate 880
Route 84
Cedar Boulevard
Mowry Avenue
Thornton Avenue
Stevenson Boulevard
Cherry Street
Central Avenue

Newark Boulevard
Jarvis Avenue
Southern Pacific Railroad
Industrial-West of Cherry Street
Industrial-Enterprise Drive, between Filbert Street and Willow Street
Industrial/Commercial-Central Avenue/Cedar Boulevard Vicinity

To identify the present acoustic conditions and obtain a basis for the projection of future acoustic conditions, noise level measurements were made at 25 locations within the City. *Figure 10-6 shows the DNL levels for each of the 25 locations at specified distances to the centerline of the roadway. (See Appendix A for a detailed breakdown of the measurements by location.)* The data was developed using a *Gen Rad Type 1945 Community Noise Analyzer*. This analyzer measures noise at a rate of 16,932 samples per hour and performs statistical analyses. Additional measurements were made with a *Brueel & Kjaer 2231 Precision Integrating Sound Level Meter*. The instruments conform to ANSI S1.4 for Type 1 instruments and were calibrated before and after the tests to assure accuracy. All measurements were made using "Fast" response and "A"-weighting. Adjustments in the recorded noise levels were made to represent average daytime and nighttime levels.

Figure 10-6
DAY-NIGHT LEVELS (dB DNL) AT THE MEASUREMENT LOCATIONS
THROUGHOUT THE CITY OF NEWARK

<u>Source and Location</u>	<u>Noise Level</u>	<u>Distance to Source</u>
1. I-880		
Near Enfield Drive	78	55 ft. from CL
Along Mowry School Road	72	100 ft. from CL
2. Route 84		
Near Lake Avenue	75	65 ft. from CL
3. Cedar Boulevard		
Near Balentine Drive	67	40 ft. from CL
Near Smith Avenue	66	75 ft. from CL
Near Lake Boulevard	65	30 ft. from CL
Near Lido Boulevard	64	28 ft. from CL
4. Central Avenue		
Near Birch Street	66	45 ft. from CL
Near Central Court	65	23 ft. from CL
5. Cherry Street		
Near Moores Avenue	71	40 ft. from CL
Near Plummer Avenue	67	30 ft. from CL
6. Jarvis Avenue		
Near Newark Boulevard	67	23 ft. from CL
Near Spruce Street	63	23 ft. from CL
7. Mowry Avenue		
Near Alpine Street	67	48 ft. from CL
8. Newark Boulevard		
Near Central Avenue	66	34 ft. from CL
Near Cedar Boulevard	66	30 ft. from CL
9. Stevenson Boulevard		
Near Cedar Boulevard	67	60 ft. from CL
10. Thornton Avenue		
Near Jarvis Avenue	67	35 ft. from CL
Near Olive Street	68	28 ft. from CL
Near Cedar Boulevard	74	35 ft. from CL
11. Southern Pacific Railroad		
Near Newark Boulevard	68	100 ft. from Track CL
12. Industrial		
Cherry Street and Central Avenue	65	500 ft. from major sources
Robertson Avenue West of Cherry Street	65	230 ft. from major sources
Smith Avenue West. of Cherry Street	64	200 to 400 ft. from mjr. sources
Enterprise Drive West of Willow Street	--	--

Noise Contour Mapping, Appendix C.

Using the noise measurement data, and as required by State planning law, noise contour maps have been prepared to show the noise environments in the City under both existing and projected future traffic conditions. A noise contour map of the railroad lines was also prepared. These maps are contained in Appendix C.

The traffic noise contour maps were prepared using the measured noise date and extrapolating the calculated DNL's at various distances from the centerlines of the roadways. The noise attenuation rate used in the calculations was 4.5 dB for each doubling of the distance from the source to the receiver. ($15 \log_{10}r_1/r_2$). The railroad noise contours were prepared in the same fashion, however, the attenuation rate used was 6 dB for each doubling of the distance form the source to the receiver ($20 \log_{10}r_1/r_2$). The noise contours shown on the maps do not take into consideration the noise attenuation provided by the building shells or topography. The maps assume that the land is vacant and flat.

Below are summary descriptions of each major noise sources within Newark.

Interstate 880 and State Route 84

I-880 borders the easterly edge of the City of Newark and extends from the southern to the northern city limits. Presently, I-880 carries an Average Daily Traffic (ADT) volume of approximately 150,000 vehicles with a 2% truck mix. Interchanges are located at Stevenson Boulevard, Mowry Avenue, Thornton Avenue and S.R.84. There is a grade separation at Central Avenue. The 60 dB DNL contour is located approximately 630 to 870 ft. from the centerline of the roadway.

State Route 84 borders the city to the North and extends from I-880 to the Dumbarton Bridge. The existing traffic volume is approximately 44,500 ADT. Interchanges are located at Thornton Avenue, Newark Boulevard and I-880. The freeway is at grade with the surrounding land-uses from Thornton Ave. to Newark Blvd. It is elevated as it crosses Newark Blvd., then is depressed as it approaches I-880. The 60 dB DNL contour is located approximately 560 to 650 ft. from the centerline of the roadway.

Southern Pacific Railroad

A predominant source of noise in the City of Newark is the operation of the Southern Pacific Railroad. The S.P.T. Co. uses two lines that bifurcate the City. One line runs in a North-South direction and one line runs in an East-West direction. The two lines intersect near Thornton Avenue and Sycamore Street.

Of the four legs of the intersection, the westerly and southerly legs are used infrequently and operational data from the S.P.T. Co. is not available. However, the two remaining legs are used approximately 8 times per day, with a majority of the trains traveling from Fremont to the west, through central Newark and turning north toward S.R.84 and Union City. The westerly leg carries short freight trains to FMC and other industrial plants. However, as this leg does not carry through traffic and as the number of freight operations are minimal, no significant noise impacts on the surrounding land uses are created.

Use of the North-South rail line is increasing as a result of the addition of the new "Capitol Line" passenger service between Sacramento and San Jose.

Amtrak Trains

Two Amtrak trains travel through Newark daily, one train at approximately 9:00 a.m. and one at approximately 7:30 p.m. Amtrak uses the southerly and northerly legs of the railroad system. The train durations are 20 seconds, with 20 cars in the train. The average noise level at 30 ft. is 67 dBA. *As train passbys are infrequent and of short duration, significant noise impacts are not created.*

Major Arterials

The major factors in determining whether a roadway constitutes a major noise source are the traffic volume on the roadway and the distance of sensitive land uses from the roadway. In most situations, local streets and minor arterials do not create unacceptable noise sources, as traffic volumes in these roadways are low enough such that high noise levels are not created. However, traffic volumes on major arterials, such as Cedar Boulevard or Thornton Avenue, are high enough to warrant evaluation. The City-wide investigation of noise sources and levels reveal which roadways create noise exposures high enough to be of concern, as shown in Figure 10-4 . The arterials are described in more detail below.

1. **Cedar Boulevard.** Cedar Boulevard is one of the longest streets in the City, and traverses the City from east to west and north to south. Major intersections are at Stevenson Boulevard, Mowry Avenue, Central Avenue, Thornton Avenue, Newark Boulevard, and Haley Street. Traffic volumes on Cedar Boulevard vary from 3,100 to 18,950 ADT, with the 60 dB DNL contour line located from 65 to 220 ft. from the roadway centerline, depending on location. The highest traffic volumes occur between the Thornton Avenue and Mowry Avenue intersections.
2. **Cherry Street.** Cherry Street crosses the City from south to north between Stevenson Boulevard and Newark Boulevard and also creates major intersections at Mowry Avenue, Central Avenue and Thornton Avenue. Traffic volumes of Cherry Street vary from 1,925 ADT in residential areas to 19,025 ADT, with the highest traffic volumes occurring between Thornton Avenue and Stevenson Boulevard. The 60 dB DNL contour line between Thornton Avenue and Stevenson Boulevard is located between 55 and 216 ft. from the roadway centerline, depending on location.
3. **Central Avenue.** Central Avenue traverses the City from north to south, extending from I-880 to Willow street. Major intersections are located at Cedar Boulevard, Newark Boulevard, and Cherry Street. Traffic volumes on Central Avenue vary from 3,625 to 17,725 ADT, with the highest traffic volumes occurring near I-880. The 60 dB contour line is located between 50 and 155 ft. from the roadway centerline, depending on location.
4. **Jarvis Avenue.** Jarvis Avenue is an east-west trending arterial extending from Lake Boulevard to Thornton Avenue. Major intersections are located at Newark Boulevard and Thornton Avenue. Traffic volumes on Jarvis Avenue vary from 3,700 to 11,175 ADT, with the highest traffic volumes occurring west of Newark Boulevard. The 60 dB DNL contour line is located between 35 and 125 ft. from the roadway centerline, depending on location.
5. **Mowry Avenue.** Mowry Avenue is an east-west trending roadway that extends from I-880 to a location west of Cherry Street. Major intersections are located at Cedar Boulevard and Cherry Street. Mowry Avenue is also a major access road for the New Park Mall. Traffic volumes on Mowry Avenue vary from 9,150 to 38,875 ADT, with the highest traffic volumes occurring near I-880. The 60 dB DNL contour line is located between 140 to 480 ft. from the roadway centerline, depending on location.
6. **Newark Boulevard.** Newark Boulevard traverses the City from north to south and extends from Route 84 to Central Avenue. Other major intersections are located at Jarvis Avenue, Cedar Boulevard and Thornton Avenue. Traffic volumes on Newark Boulevard vary from 8,000 to

30,700 ADT, with the highest traffic volumes occurring near Route 84. The 60 dB DNL noise contour is located between 35 and 100 ft. from the roadway centerline, depending on location.

7. **Stevenson Boulevard.** Stevenson Boulevard crosses the City from east to west along the southern City boundary. Traffic volumes on Stevenson Boulevard vary from 8,550 to 43,350 ADT, with the highest traffic volumes occurring near I-880. The 60 dB DNL noise contour is located between 95 and 280 ft. from the roadway centerline depending on location.
8. **Thornton Avenue.** Thornton Avenue crosses the City from east to west and extends northerly to Route 84 west of Willow Street. Major intersections occur at I-880, Cedar Boulevard, Newark Boulevard, Cherry Street, Willow Street, Jarvis Avenue and Route 84. Traffic volumes on Thornton Avenue vary from 8,375 to 41,100 ADT, with the highest traffic volumes occurring near I-880. The 60 dB DNL noise contour is located between 70 and 300 ft. from the roadway centerline, depending on location.

Other roadways that have been evaluated include Balentine Drive, Edgewater Drive, Haley Street, Mayhews Landing Road and Willow Street. Noise contours are shown for these roadways on the *Noise Contour Maps* where traffic volumes and roadway width indicate that noise contours should be shown. In general, traffic volumes along these roadways are too low to be a concern from a noise standpoint.

Industrial Land Uses

Areas of industrial land use are concentrated as follows: West of Cherry Street between Stevenson Boulevard and Central Avenue; south of Enterprise Drive and east of Willow Street; between Central Avenue and SPRR southeast of Cedar Boulevard; north of Jarvis Avenue west of Newark Boulevard; and east of Cedar Boulevard between Mowry Avenue and the SPRR. The types of industrial uses in the city vary widely, from small, light manufacturing or warehouse uses to large, heavy manufacturing uses. Hours of operation also vary widely, from typical 8 hr. work days to 24 hr. continuous operation.

Two heavy industrial plants, Pabco Corporation and FMC, create the greatest noise impacts in their respective vicinities. Pabco Corporation operates on a 24 hour basis, whereas the Cargill Salt Company and FMC produce noise making operations occasionally. Thus, significant noise impacts from Cargill Salt and FMC are not created on a consistent, yearly basis. However, a noise survey performed for the industrial land uses indicates there are several areas where industrial noise sources slightly impact more sensitive surrounding land uses. The areas include industrial noise sources in the vicinity of: Enterprise Drive and Willow Street; west of Cherry Street between Central Avenue and Smith Avenue; and north of Central Avenue west of Cedar Boulevard. Industrial noise sources in the area east of Cedar Boulevard between Mowry and Central Avenues are not significant in relation to I-880 traffic noise sources, but may add slightly to the noise environment in this general area.

Measurements of the noise levels were made at locations where industrial noise sources were evident, and information concerning hours and frequency of operation was obtained from the companies involved. This information was used to calculate the DNL's for industrial areas shown on the *Noise Contour Maps*. The results of the survey indicate that *residential and other noise sensitive land uses are not greatly impacted by industrial noise sources. However, residential areas in the vicinity of Cherry Street and Central Avenue are experiencing industrial noise exposures higher than 60 dB DNL.*

Aircraft

Noise from aircraft flyovers is not a major problem within the City of Newark at the present time. The commercial and military air fields in the vicinity of Newark include:

*San Jose International Airport
Oakland International Airport
San Francisco International Airport
Alameda Naval Air Station
Moffett Field*

Other small airports include:

*San Carlos Airport
Hayward Air Terminal
Fremont Airport and Sky Sailing Facility*

Although intermittent aircraft may produce single-event noise levels in excess of 60-70 dBA, low altitude, regular traffic patterns to and/or from the above air facilities do not occur over Newark. *There are no areas within the City of Newark exposed to noise from any airport greater than 60 dB CNEL.*

The Extent of Noise Problems within the City

The noise problems encountered within the City of Newark range from relatively minor and very local problems such as a barking dog, to problems such as construction noise, leaf blowers, mechanical equipment, loud music, and noise from existing commercial/industrial activities. Many of these noise problems cannot be mitigated by conventional land use planning means, but can be controlled through administrative/regulatory processes. Other noise sources that can be controlled by effective planning are transportation corridors and new commercial/industrial activity. There are roughly over 5,700 persons presently (i.e., 1990-91) exposed to noise levels greater than 60 dB DNL. Residential zones exposed to noise levels in excess of 60 dB DNL may be considered "noise impacted" and noise mitigation measures should be implemented.

Future Noise Levels From Existing Sources

The future noise environment in the City of Newark is determined primarily from projected increases or decreases in future traffic volumes on major roadways. Future railroad noise levels cannot be accurately projected, as railroad traffic volumes depend on the future demand for rail services, and such demand is difficult to accurately predict. Thus, a separate *Noise Contour Map* for railroad noise has been prepared (*Appendix C*) which reflects the existing conditions for railroad noise. Similarly, future industrial noise exposures may vary greatly, depending on economic conditions and other factors which influence the location and hours of operation of various industrial plants within the City. The existing industrial noise exposure contours have been included on the Future Noise Contour Map. However, it is noted that noise exposures from industrial sources are subject to changes that cannot be easily anticipated.

Future traffic noise exposures are based on projected traffic volumes for major roadways. Future traffic volumes have been compared with the existing traffic volumes to determine the projected decibel increase or decrease. The noise contours were then adjusted to show the changes in the noise exposures. The results of this analysis are summarized below for the major roadways. Based on the analysis, it is estimated that under future conditions roughly 5,670 persons would be exposed to noise levels greater than 60 dB DNL.

Interstate 880 and State Route 84. Traffic volumes on I-880 are projected to increase to between 219,000 and 228,100 ADT along the Newark City limits. Thus increases of 44 to 64% in the traffic volumes are projected to occur over existing conditions, yielding a 2 dB increase in the traffic noise exposure under future conditions. The 60 dB DNL contour line will be located 870 ft. from the roadway centerline.

Traffic volumes on Route 84 are projected increase to between 72,400 and 108,300 ADT under future conditions. These increases in traffic volume will yield noise exposure increases of 2 to 4 dB, with the 60 dB DNL noise contour located between 880 and 1200 ft. from the centerline of the roadway, depending on location.

Major Arterials

1. **Cedar Boulevard.** Traffic volumes on Cedar Boulevard are projected to increase slightly over most of the roadway segments considered, except for slight decreases between Central Avenue and Mowry Avenue. Noise exposure increases of 0 to 4 dB will occur along this roadway, with the largest increase occurring between Musick and Thornton Avenues. The resulting 60 dB DNL noise contours will be located between 60 and 220 ft. from the roadway centerline, depending on location.
2. **Central Avenue.** Traffic volumes on Central Avenue are projected to increase to between 9,000 and 23,400 ADT under future conditions. These increases in traffic volumes will yield noise exposures increases of 1 to 4 dB, with the 60 dB DNL noise contour located from 90 to 180 ft. from the centerline of the roadway, depending on location.
3. **Cherry Street.** Traffic volumes on Cherry Street are projected to increase to between 6,600 and 25,300 ADT under future conditions. These increases in traffic volumes will yield noise exposure increases of 0 to 2 dB, with the 60 dB DNL contour located between 65 and 250 ft. from the centerline of the roadway, depending on location.
4. **Jarvis Avenue.** Traffic volumes on Jarvis Avenue are projected to increase to between 8,700 and 15,400 ADT under future conditions. These increases in traffic volume will yield noise exposure increases of 0 to 4 dB. Traffic volumes will decrease slightly south of Haley Avenue, yielding a 1 dB decrease in the traffic noise levels in this area. The resulting 60 dB DNL noise contour will be located from 31 to 124 ft. from the centerline of the roadway, depending on location.
5. **Mowry Avenue.** Traffic volumes on Mowry Avenue are projected to increase to between 29,100 and 52,500 ADT under future conditions. These increases in traffic volume will yield noise exposure increases of 2 to 5 dB, with the 60 dB DNL noise contour located between 300 and 480 ft. from the roadway centerline.
6. **Newark Boulevard.** Traffic volumes on Newark Boulevard are projected to increase to 41,500 on the segment from Route 84 to Jarvis Avenue, and are projected to decrease to between 4,500 and 14,300 ADT on the segment from Jarvis Avenue to Central Avenue. The projected traffic volumes will yield an increase of 2 dB and decreases of 1 to 3 dB in the traffic noise exposures, with the 60 dB DNL noise contour located between 40 and 139 ft. from the centerline of the roadway, depending on location.
7. **Stevenson Boulevard.** Traffic volumes on Stevenson Boulevard are projected to increase to between 21,700 and 57,400 under future traffic conditions. These increases in traffic volume will yield noise exposure increases of 2 to 4 dB, with the 60 dB DNL noise contour located from 325 to 380 ft. from the centerline of the roadway.

8. **Thornton Avenue.** Traffic volumes on Thornton Avenue are projected to increase to between 14,300 and 48,300 ADT on the segment from Willow Street to Route 84, and are projected to decrease to between 5,600 and 38,900 ADT on the segment from I-880 to Willow Street. These changes in traffic volume will yield a noise exposure increase of 1 dB and noise exposure decreases of 0 to 4 dB under future conditions. The 60 dB DNL noise contour will be located from 50 to 300 ft. from the centerline of the roadway, depending on location.

Future Land Use Changes

The future land use changes are described in *Chapter 3. Land Use*. Briefly, the key projected changes that will influence the noise conditions of Newark are:

- o A mix of residential and light industrial development in the vicinity of Jarvis and Thornton Avenues.
- o A combination of limited and high intensity industrial land uses and open space/conservation land uses in the area west of Willow Street.
- o Open space/conservation designation for areas west of Cherry and Willow Streets with a limited amount of light industrial, residential and recreation uses allowed in the vicinity of Stevenson Boulevard and Mowry Avenue.

Based on these proposed land use designations, the following conclusions can be reached regarding noise generation:

- o As the majority of the undeveloped area in the City will remain as open space, no net increase or decrease in the noise exposure levels will be created over a large portion of the undeveloped areas.
- o Residential and light industrial land uses in the vicinity of Stevenson Boulevard, and Mowry Avenue will increase traffic volumes on Stevenson Boulevard, Cherry Street, and Mowry Avenue. As the proposed uses will not be intensive and residential uses will be low density, traffic noise exposures should not increase significantly, i.e., by more than 1 to 2 dB.
- o Light industrial and residential uses in the vicinity of Jarvis and Thornton Avenues could create significant increases in traffic on Jarvis and Thornton Avenues to the extent that audible increases in traffic noise exposures would be created (>3 dB). Residential areas directly east of this area along Jarvis and Thornton Avenues and Cedar Boulevard would be the most impacted locations.
- o Industrial uses in the area west of Willow would create traffic noise increases and industrial noise increases in this area. Traffic noise exposure increases may or may not be significant, depending on the increase in traffic volumes generated by industrial workers. Residential areas between Thornton and Central Avenues north of this area would be the most impacted areas. Industrial noise is not likely to create a problem, as the alternatives show a buffer zone of "limited" industrial uses between residential and heavy industrial areas.

10.5. MITIGATING MEASURES FOR CONTROLLING NOISE

The results of the noise evaluation presented in this chapter indicates that noise exposures vary widely, depending on the type on land use and the proximity to major noise sources. Residential areas within the City typically have relatively quiet noise levels typical of suburban areas. However, areas in proximity to freeways, the SPRR, and some major arterials and industrial areas

experience or can potentially experience high noise levels which may be unsuitable for sensitive land uses, depending on the mitigation measures which have been or can be employed.

Areas exposed to levels in excess of 60 dB DNL are in close proximity to the roadways, railroads and industrial uses and do not accurately represent the noise impingement levels on all residential buildings and other structures. However, the potential exists for creating annoyance, sleep interference and other problems. Methods for achieving an overall improvement in the noise environment of the City of Newark by reducing noise and its effects are set forth in sections below.

Before noise mitigating measures can be selected, it is necessary to quantify the amount of excess noise that is creating the problem. Usually an assessment of the problem is made by measuring the noise emission level of the offending source and comparing it against the ambient noise levels, without the source. Some judgment can be made if the noise excess is over an acceptable level by reference to Figures 10-2, 10-3, 10-4, 10-5, 10-7 and 10-8.

**Figure 10-7
ESTIMATED COMMUNITY RESPONSE TO SOUND LEVEL INCREASES**

<u>Sound Level in dBA Above the Acceptable Level</u>	<u>Estimated Community Response</u>
0	No observed reaction
5	Sporadic complaints
10	Wide spread complaints
15	Threats of action
20	Vigorous action

Source: A report to the 1971 Legislature on the subject of Noise Pursuant to Assembly Concurrent Resolution 165 (Sacramento: California Dept. of Public Health, 1971).

**Figure 10-8.
PERCENTAGES OF PERSONS HIGHLY ANNOYED WHO REGISTER COMPLAINTS
AS A FUNCTION OF DNL**

<u>DNL (dB)</u>	<u>Percentage of Highly Annoyed</u>	<u>Percentage of Complaints</u>
50	13	< 1
55	17	1
60	23	2
65	33	5
70	44	10
75	54	15
80	62	Over 20

Source: Harry Heuman, "Noise: Our Clandestine Pollutant," Proceedings of the International Conference on Urban Housing and Transportation, June 1-4, 1975, Detroit, p. 93.

An effective noise mitigation program must be based on well defined administrative procedures, evaluation of the noise conditions and identification of the best noise control measures for a given situation. The procedures and control methods proposed to help achieve the goals, policies and noise standards of this chapter are described below.

Construction of Soundwalls

The residential areas located adjacent to the freeways and major arterials are most impacted by traffic noise. Those residential areas adjacent to the Nimitz Freeway that would otherwise be impacted by traffic noise will be buffered by a soundwall to be constructed as a part of the Measure B improvements to 880. The soundwall is scheduled to be completed by Winter 1993 and will serve as an adequate mitigating device to reduce the traffic noise exposure in the residential areas adjacent to the Nimitz to acceptable levels.

The City Council, as a part of its 1990 Capital Improvements Program, has also adopted a backup wall replacement program. This project will replace existing nonmasonry backup walls with masonry walls on the property owners property. The walls are proposed along major arterials on a cost sharing basis with adjacent property owners and long-term financing available through establishment of assessment districts. Backup masonry walls are ultimately proposed for portions of Thornton Avenue, Cherry Street, Cedar Boulevard, Newark Boulevar, Mowry Avenue and Jarvis Avenue. These are the areas that are most impacted by traffic noise.

Administrative Review Processes

The established administrative review processes for environmental impact (i.e., pursuant to the California Environmental Quality Act) and building permits (i.e., pursuant to the Uniform Building Code) provide definite methods and procedures with which to control noise paths, receptors, and to some extend sources. There are several existing administrative processes which should be used to abate noise:

1. Determination of need for an *Acoustical Analysis* for public and private projects, as defined in the next section,
2. Design of scope of work for Environmental Impact Report,
3. Inspection of building plans and issuance of a building permit.

The Acoustical Analysis

When any new land use project is proposed for a site that is potentially impacted by existing or future noise conditions as identified in this Chapter, an *acoustical analysis* shall be prepared. The analysis shall be submitted along with the application for the building permit or land use application, whichever occurs first, and shall be prepared under the supervision of a person experienced in the field of acoustical engineering. The report shall include noise data obtained from on-site sound level measurements with appropriate temporal (day and night) and, if necessary, spatial variations. The report shall show topographical relationships of noise sources and dwelling sites, identification of noise sources and their characteristics, predicted noise spectra and levels at the exterior of the proposed dwelling structure considering present and future land usage, basis for the prediction (measured or obtained from published data), noise attenuation measures to be applied, and an analysis of the noise insulation effectiveness of the proposed construction showing that the prescribed interior noise level requirements are met.

If interior allowable noise levels are met by requiring that windows be unopenable or closed, the design for the structure must also specify a ventilation or air conditioning system to provide a habitable interior environment. The ventilation system must not compromise the building shell noise reduction capabilities, or Title 24 Energy Regulations, calculations and recommendations.

General Noise Control Measures

As described earlier in this chapter, noise problems consist of five basic components: 1) the noise source, 2) duration of the noise, 3) time of day, 4) the noise transmission path, and 5) the receiver.

Most of the noise control alternatives focus on these components and involve the use of one or more of several mitigation measures. These include noise reduction at the source; increased separation distance between the source and receiver; the use of sound enclosures, barriers, or better sound insulating components; scheduling; and zoning.

- 1. Noise Control at the Source.** This usually involves redesigning or modifying the source. Generally, modification of the source is the most desirable approach. However, this solution is often economically and technically impractical and the City may not have the necessary legal authority to take this approach. To overcome the limitations, consideration should be given to the use of a less noisy source or a barrier or enclosure at the source.
- 2. Lengthen or Modify the Transmission Path.** Introduce solid, air-impervious barriers between the noise source and receiving points to at least block the line-of-sight path between the two points. Options include using natural terrain features to introduce an obstruction in the path, such as an earthen berm of sufficient height and length or placing a solid, air-impervious wall of pre-cast concrete, cement block, wood or stucco of proper surface density, height, and length. Another option would be sufficient separation distance between the source and the receiving points to attenuate noise to acceptable levels.
- 3. Enclose the Receiver.** Enclosing the receiver can be accomplished by the use of building structures. This method can yield acceptable results if the building envelope is properly designed for sound control. If people cannot be enclosed by a building and must remain outdoors, personal protective devices, such as ear plugs or muffs would provide limited protection.
- 4. Scheduling.** Where practical, noisy events should be scheduled when people would be least likely to be disturbed. Scheduling noisy activities for the daytime period will result in fewer complaints as compared to evening or nighttime operations.
- 5. Zoning.** Proper use of zoning by the City can be effective for noise control because of positive results from the proper control of density, and building height and location.
- 6. Roadway Noise Control.** Of the numerous sources of noise in urban areas, the motor vehicle has been the main source and the principal target for noise abatement. As federal and state agencies have preempted the cities with noise control regulations on motor vehicles, local jurisdictions can participate in enforcement of the regulations. The City of Newark supports federal and state authorities in actions for quieter designs of trucks, buses, motorcycles and passenger automobiles. Further, noise from roadways should be controlled, as determined possible and appropriate through the following methods:

Roadside Noise Barriers. The basic requirement for a roadway noise barrier is that it must shield the view of the vehicles from the location to be protected. Also, the barrier must be built and located to prevent sound from flanking the ends of the barrier and also minimize transmission of reflective and refractive components by other paths.

Depressed Roadways. A depressed roadway will transmit less noise to adjacent areas because of shielding effects from the embankment along the cut. Depending on the depth of the roadway cut and distances, the excess attenuation can approach 15 dBA.

Elevated Roadways. Similar to depressed roadways, elevated roads having a vertical displacement in relationship to adjoining land will provide acoustic shielding from portions of the elevated structure. A roadway with a 25 ft. elevation will provide approximately 10 dBA of excess attenuation at a 200 ft. distance as compared to an at-grade road. Additional noise reductions can be obtained from solid, air-impervious walls or berms along elevated sections of roads.

Plantings As Roadway Barriers. Contrary to widespread belief, trees and shrubbery are not effective as roadway noise barriers. Plantings do not possess the physical properties needed for a good sound barrier. As trees and shrubs are porous to air flow and lack mass, their permeability to sound transmission is great. Therefore, they are poor sound barriers. Generally, it is necessary to have 75-100 ft. of depth of plantings of great density from the ground to elevations of 30-50 ft. to obtain 5 dBA of noise reduction. Plantings as roadside noise barriers usually provide a psychological and aesthetic benefit.

7. Noise Control for Buildings. Control of intrusive noise in buildings has become more of a problem in recent years due to various reasons, including:

- o Locating buildings near noise sources.
- o Use of lighter weight construction materials.
- o Increasing use of glass and open concepts in designs.
- o Inadequate attenuation to details concerned with sound control.
- o Improper floor plan arrangements
- o Improper orientation and location of buildings in relation to nearby noise sources
- o Inadequate use of natural noise barriers, such as hills, grades, etc.

The following methods of siting, orientation and construction will assist in obtaining lower noise levels within buildings:

1. Maintain adequate separation distance from noise source.
2. Use berms or walls as exterior noise barriers.
3. Site buildings to take advantage of natural barriers.
4. Orient buildings to reduce noise impingement on exterior surfaces by having the long axis of the buildings perpendicular to the highway.
5. Avoid parallel building arrangements whereby sound buildup and reflections can occur between buildings.
6. Where possible, locate buildings on the windward or upwind side of the road. The upwind side is usually quieter than the downwind side.
7. Arrange interior spaces to have noisy spaces on the roadway side of the building. Conversely, place noise sensitive spaces, such as bedrooms, on the quiet side.
8. For excessive noise exposures, provide mechanical ventilation or air-conditioning to permit closing of windows during noisy periods.
9. Require, at minimum, the Sound Insulation Standards of the California Code of Regulations, Title 24 for all multi-family developments.

APPENDIX N-A
DAY-NIGHT LEVELS (dB DNL) AT THE MEASUREMENT LOCATIONS
THROUGHOUT THE CITY OF NEWARK

Location and Time Period	Noise Levels, dBA					
	L _{max}	L ₁₀	L ₅₀	L ₉₀	L _{min}	L _{eq}
1. I-880 near Enfield Drive						
6:00-7:00 p.m. (daytime)	85	77	74	72	62	75
9:00-10:00 p.m. (")	86	76	72	66	56	73
12:45-1:45 a.m.(nighttime)	84	72	62	55	47	68
2. I-880 near Balentine						
1:45-2:45 p.m. (daytime)	81	70	68	65	60	68
6:00-7:00 p.m. (")	78	72	69	67	62	70
12:30-1:30 a.m.(nighttime)	80	67	60	53	45	64
3. Jarvis and Lake Blvd.						
3:30-4:30 p.m. (daytime)	84	76	74	71	62	74
9:00-10:00 p.m.(")	81	71	68	63	54	69
5:30-6:30 a.m.(nighttime)	89	79	77	72	61	77
4. Cedar and Balentine Dr.						
3:00-4:00 p.m. (daytime)	80	71	63	54	47	66
7:00-8:00 p.m. (")	84	66	57	50	45	62
11:15-12:45 p.m.(")	76	59	52	48	45	57
5. Cedar and Smith						
5:10-6:10 p.m. (daytime)	71	66	53	59	56	63
9:00-10:00 p.m.(")	81	71	68	63	54	69
4:40-5:40 a.m.(nighttime)	72	63	57	53	50	59
6. Cedar near Lake						
4:45-5:45 p.m. (daytime)	85	68	64	61	59	65
8:00-9:00 p.m. (")	74	65	60	57	55	62
10:30-11:30 p.m.(nighttime)	74	60	55	50	48	57
7. Cedar and Lido						
3:30-4:30 p.m. (daytime)	93	67	57	50	44	64
7:00-8:00 p.m. (")	80	65	54	50	46	61
4:15-5:15 a.m.(nighttime)	76	53	46	42	38	54
8. Mowry and Alpine						
5:00-6:00 p.m. (")	92	71	64	55	47	67
8:00-9:00 p.m. (")	98	66	56	48	42	64
2:15-3:15 a.m.(nighttime)	80	55	44	42	39	56
9. Stevenson at Cedar						
12:40-1:40 p.m. (daytime)	81	68	62	57	53	64
6:10-7:10 p.m. (")	80	67	61	57	52	64
10:00-11:00 p.m.(nighttime)	89	65	58	55	52	62

Location and Time Period	Noise Levels, dBA					
	L _{max}	L ₁₀	L ₅₀	L ₉₀	L _{min}	L _{eq}
10. Cherry and Moores						
12:30-1:30 p.m. (daytime)	94	76	71	65	56	74
4:05-5:05 p.m. (")	85	74	68	60	53	70
3:30-4:30 a.m.(nighttime)	87	63	51	47	46	63
11. Cherry and Plummer Avenue						
2:00-3:00 p.m. (daytime)	101	70	61	52	42	69
8:30-9:30 p.m. (")	87	69	61	54	47	66
10:30-11:30 p.m.(nighttime)	77	62	52	49	46	59
12. Central and Birch						
10:00-11:00 a.m.(daytime)	83	68	59	49	41	64
3:00-4:00 p.m. (")	88	69	59	48	41	65
2:15-3:15 a.m.(nighttime)	76	52	48	45	41	51
13. Central Avenue and Central Court						
10:00-12:00 p.m.(daytime)	87	69	57	47	41	66
3:10-4:10 p.m. (")	86	69	59	50	44	66
12:45-1:45 p.m.(nighttime)	76	49	43	41	39	50
14. Newark and Central Avenue						
12:15-1:15 p.m. (daytime)	83	71	63	51	42	67
4:00-5:00 p.m. (")	84	72	62	51	41	68
1:00-2:00 a.m. (nighttime)	80	55	48	46	43	55
15. Newark and Cedar						
1:20-2:20 p.m. (")	98	70	60	53	48	70
6:30-7:30 p.m. (")	85	68	59	53	49	64
11:45-12:45 a.m.(nighttime)	78	53	43	39	36	54
15. Newark and Cedar						
12:15-1:15 p.m. (daytime)	83	71	63	51	42	67
4:00-5:00 p.m. (")	84	72	62	51	41	68
1:00-2:00 a.m. (nighttime)	80	55	48	46	43	55
16. Jarvis and Newark						
2:30-3:30 p.m. (daytime)	78	68	64	61	57	65
8:00-9:00 p.m. (")	86	65	60	58	54	64
11:30-12:30 a.m.(nighttime)	80	60	55	52	49	58
17. Jarvis and Spruce						
2:30-3:30 p.m. (daytime)	86	66	56	55	54	63
5:30-6:30 p.m. (")	81	67	55	51	48	63
3:00-4:00 a.m. (nighttime)	77	44	39	37	34	49
18. Thornton and Jarvis						
1:30-2:30 p.m. (daytime)	82	68	55	47	42	64
4:30-5:30 p.m. (")	85	70	63	55	49	66
2:00-3:00 a.m.(nighttime)	81	50	39	36	32	53

Location and Time Period	Noise Levels, dBA					
	L _{max}	L ₁₀	L ₅₀	L ₉₀	L _{min}	L _{eq}
19. Thornton and Olive						
12:00-1:00 p.m. (daytime)	97	70	63	55	46	67
5:20-6:20 p.m. (")	77	68	61	53	47	64
1:30-12:30 a.m.(nighttime)	76	61	47	44	42	57
20. Thornton and Cedar						
7:30-8:30 a.m. (daytime)	90	75	70	65	56	72
7:15-8:15 p.m. (daytime)	83	73	68	62	54	69
10:15-11:15 p.m.(nighttime)	81	71	63	56	52	67

APPENDIX N-B -- DEFINITIONS

Acoustics: The science of sound, including the generation, transmission and effects of sound waves, both audible and inaudible.

A-Weighting: A filter network designed to transform a frequency spectrum to that which is heard by the human ear.

Ambient Noise: The total noise in a system or environment excluding the sound at issue.

Community Noise Equivalent Level (CNEL): A single number, calculated from hourly Leq (in dBA) measurements, used to describe a noise environment averaged over a 24-hour day. Evening Leq's (7:00 p.m. to 10:00 p.m.) and nighttime Leq's (10:00 p.m. to 7:00 a.m.) are penalized 5 and 10 dB, respectively, to account for greater human sensitivity to noise during these periods.

Day-Night Sound Level (DNL): A single-number, calculated from average hourly Leq (dBA) measurements, used to describe a noise environment average over a 24-hour day. Nighttime Leq's (10 p.m. to 7 a.m.) are penalized 10 dB to account for greater human sensitivity to noise during that period.

Decibel (dB): A unit (1/10 of a bel) of level or logarithmic representation of magnitude that is 10 times the \log_{10} times the ratio of two power units (or two pressure units squared).

dBA: Sound pressure level (in decibels) measured or calculated using the "A"-weighting network.

Equivalent Energy Level (Leq): The level of a steady state that has the same sound energy as a given time-varying noise.

Frequency: The number of times one wavelength of a sound wave passes a point in space in a given time.

Hertz: The unit used to describe frequency in terms of cycles (wavelengths passing a point) per second.

Impact Insulation Class (IIC): A single number rating to describe the amount of structure-borne (impact) noise reduction provided by a floor/ceiling assembly. The IIC is determined from laboratory procedures.

Impulse Noise (Impulsive Noise): Noise of short duration (usually less than one second) with rapid onset and decay.

L10, L50, L90 (L exceedance values): The sound level that is exceeded 10%, 50% or 90% of the time, respectively. L10 represents the "intrusive" level, L50 represents the "average" level and L90 represents the "background" level.

Loudness: Loudness is the intensive attribute of an auditory sensation, in terms of which sounds may be ordered on a scale extending from soft to loud. Loudness depends primarily upon the sound pressure of the stimulus, but it also depends upon the frequency and wave form of the stimulus.

Noise: Any undesired sound. By extension, noise is any unwanted disturbance within a useful frequency band, such as undesired electric waves in a transmission channel or device.

Noise Contour: A line connecting points of equal noise level as measured on the same scale.

Pitch: That attribute of auditory sensation in terms which sounds may be ordered on a scale extending from low to high. Pitch depends primarily upon the frequency of the sound stimulus, but it also depends upon the sound pressure and wave form of the stimulus.

Sound: 1) An oscillation in pressure, stress, particle displacement, particle velocity, etc., in a medium with internal forces (e.g., elastic viscous), or the superposition of such propagated alterations. 2) An auditory sensation evoked by the oscillation described above. Note: 1: In case of possible confusion the term "sound wave" or "elastic wave" may be used for concept (1), and the term "Sound Sensation" for concept (2) Not all sound waves can evoke an auditory sensation: e.g., ultrasound. Note 2: The medium in which the source exists is often indicated by an appropriate adjective: e.g., airborne, waterborne, structure-borne.

Sound Level Meter: An instrument comprised of a microphone, frequency-filtering networks, an amplifier, and a display that is used to measure sound pressure.

Sound Pressure Level: 20 times the logarithm to the base 10 of the ratio of the sound pressure in question to a reference pressure of 20 micropascals, expressed in decibels (dB).

Sound Transmission Class (STC): The preferred single figure rating system designed to give an estimate of the airborne sound insulation properties of a partition or a rank ordering of a series of partitions.

Standard: (1) A prescribed method of measuring acoustical quantities. Standards in this sense are promulgated by professional and scientific societies like ANSI, SAE, ISO, etc., as well as by other groups. (2) In the sense used in Federal environmental statutes, a standard is a specific statement of permitted environment.

Threshold of Hearing (Audibility): The minimum effective sound pressure level of an acoustic signal capable of exciting the sensation of hearing in a specified proportion of trials in prescribed conditions of listening (approximately 0 dB).

APPENDIX N-C -- NOISE CONTOUR MAPS

Appendix A

Technical Background Materials

Newark General Plan

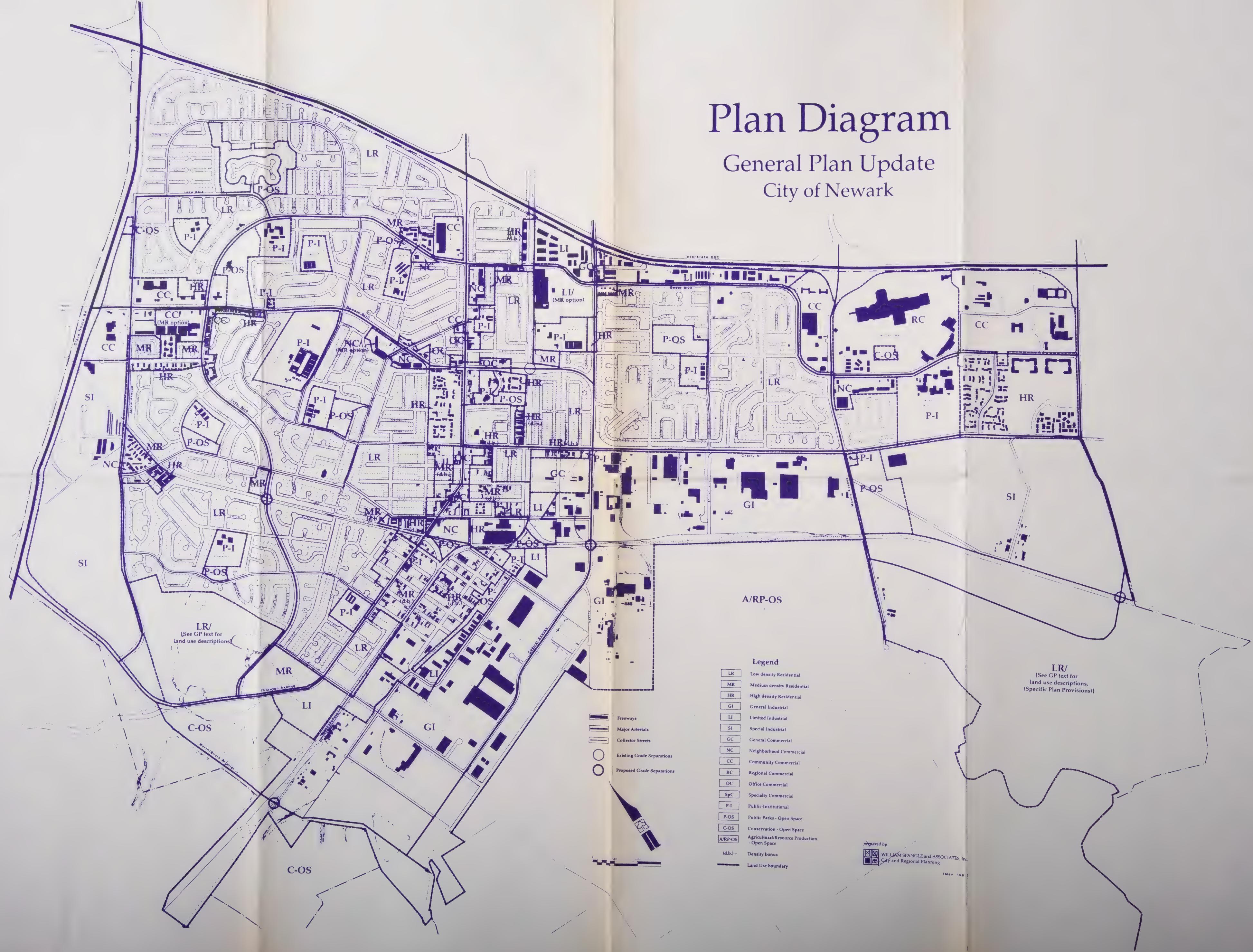
1. General Plan Report, City of Newark, May 1991. Prepared by Development Services Department, City of Newark, TJKM Transportation Consultants, Angus McDonald & Associates Fiscal Consultants, and William Spangle and Associates Planning Consultant.
2. General Plan Update, Input From Citizens Committee, City of Newark, August 1990. Prepared by Development Services Department, City of Newark.
3. General Plan Update, Analysis of Land Use Alternatives, City of Newark, May 1990. Prepared by Development Services Department, City of Newark, TJKM Transportation Consultants, Angus McDonald & Associates Fiscal Consultants, and William Spangle and Associates Planning Consultant.
4. General Plan Update, Goals, Policies and Programs, City of Newark, May 1990. Prepared by Development Services Department, City of Newark and William Spangle and Associates Planning Consultant.
5. City of Newark Project 2007 Working Papers. During the 1987-89 period, the following working papers were prepared to provide necessary technical data to support the Newark general plan update project:
 - o **Transportation**. EDAW, Inc. in association with Angus McDonald and Associates, Inc., and TJKM.
 - o **Community Development**. EDAW, Inc. in association with Angus McDonald and Associates, Inc., and TJKM.
 - o **Community Facilities and Services**. EDAW, Inc. in association with Angus McDonald and Associates, Inc., and TJKM.
 - o **Recreation and Conservation**. EDAW, Inc. in association with Angus McDonald and Associates, Inc., and TJKM.
 - o **Safety and Noise**. EDAW, Inc. in association with Angus McDonald and Associates, Inc., and TJKM.

Appendix B
General Plan Diagram
Newark General Plan

Plan Diagram

General Plan Update

City of Newark



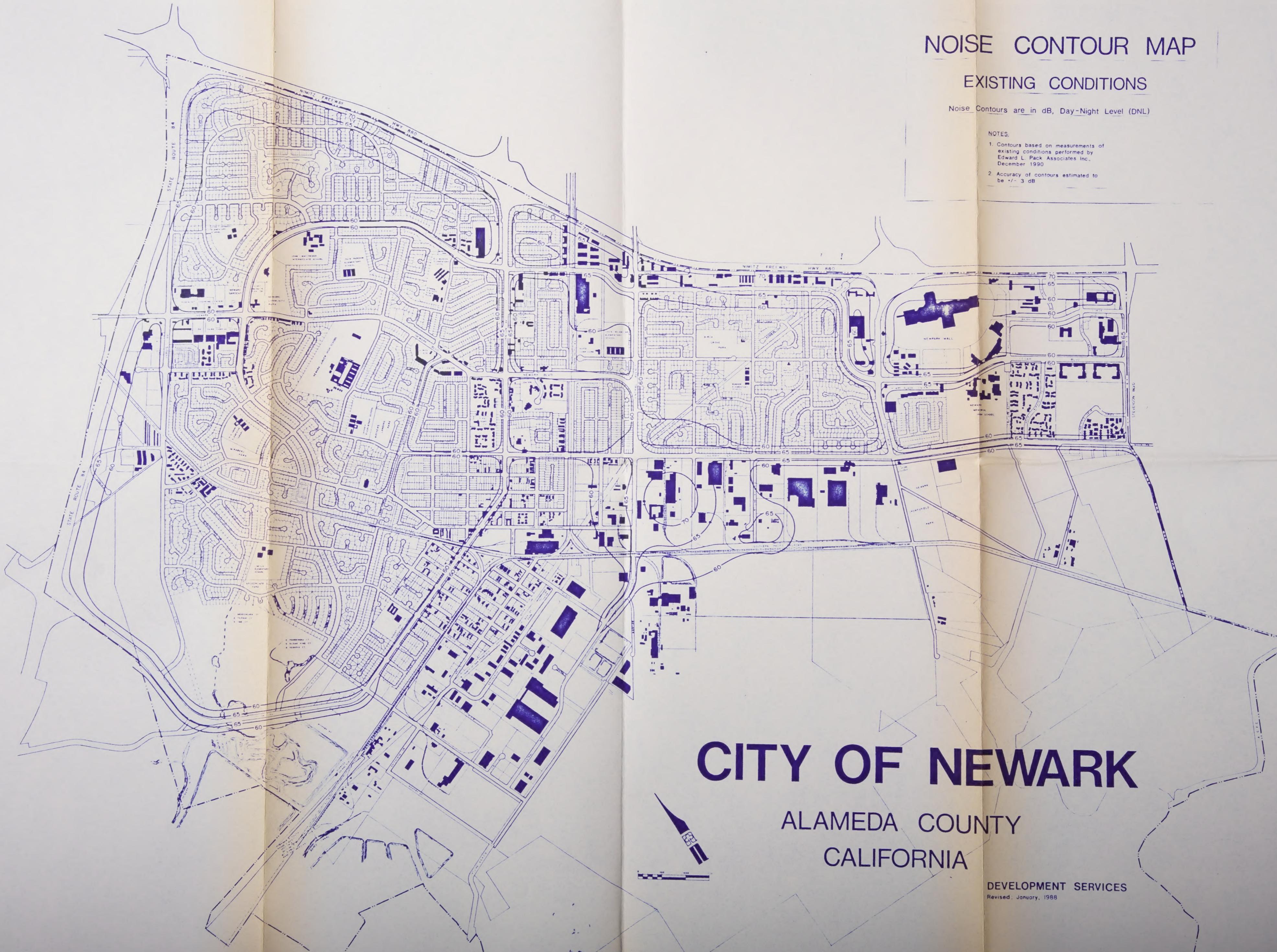
NOISE CONTOUR MAP

EXISTING CONDITIONS

Noise Contours are in dB, Day-Night Level (DNL)

NOTES:

1. Contours based on measurements of existing conditions performed by Edward L. Pack Associates Inc., December 1990
2. Accuracy of contours estimated to be +/- 3 dB



NOISE CONTOUR MAP

FUTURE CONDITIONS
(YEAR 2007)

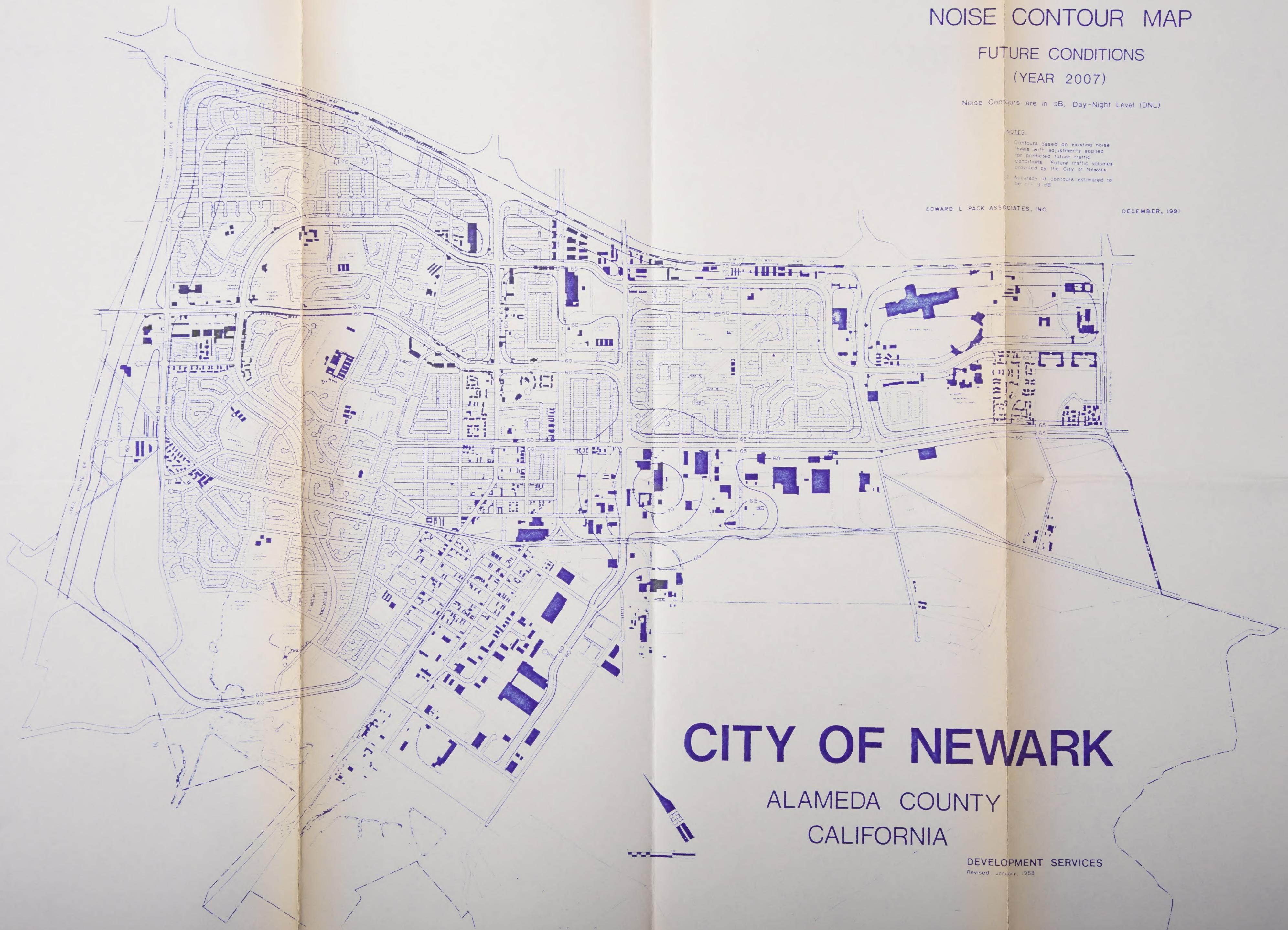
Noise Contours are in dB, Day-Night Level (DNL)

NOTES

1. Contours based on existing noise levels with adjustments applied for predicted future traffic conditions. Future traffic volumes provided by the City of Newark.
2. Accuracy of contours estimated to be +/- 3 dB.

EDWARD L. PACK ASSOCIATES, INC.

DECEMBER, 1991



CITY OF NEWARK

ALAMEDA COUNTY
CALIFORNIA

DEVELOPMENT SERVICES
Revised January, 1988

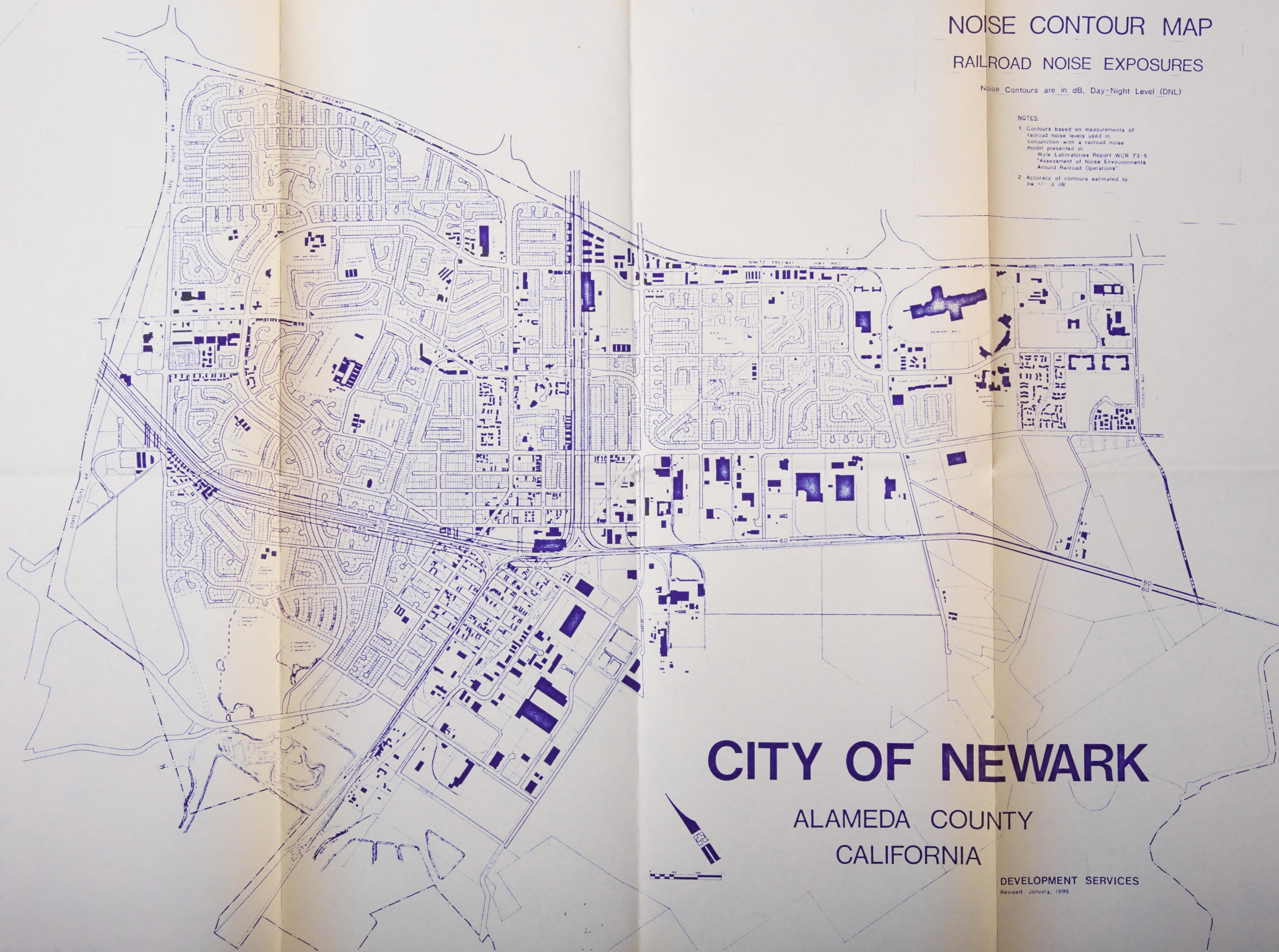
NOISE CONTOUR MAP

RAILROAD NOISE EXPOSURES

Noise Contours are in dB, Day-Night Level (DNL)

NOTES:

1. Contours based on measurements of railroad noise levels used in conjunction with a railroad noise model presented in Wyle Laboratories Report WCR 73-5 "Assessment of Noise Environments Around Railroad Operations".
2. Accuracy of contours estimated to be +/- 3 dB.



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DEVELOPMENT SERVICES
Revised: January, 1998

